

2 LARNACA: The raid that went wrong

'A complete collapse of understanding'

BY ROGER MATTHEWS



Two Palestinians, believed to be the killers of Mr. El Sebai, the Egyptian newspaper editor, are led away. The gunmen are first and third from left.

ANGER, indignation and astonishment at the action of the Cypriot authorities were expressed by Egyptian officials and newspapers to-day following the tragic shoot-out at Larnaca airport last night. "The Cypriots turned what had been a humanitarian rescue operation into a violent tragedy," said one senior Foreign Ministry official to-day. The Egyptian commando group had gone to Cyprus with the full knowledge of the President of Cyprus, Mr. Spyros Kyprianou, it was claimed and "we took it for granted that the Cypriots would co-operate fully given that we did inform them," added the official. The main points to have emerged so far in the Egyptian version of events:

• The C-130 transport aircraft landed at Larnaca airport at approximately 6 p.m. carrying 60 or more adequately but not heavily armed commandos who had been specially trained for carrying out such operations.

• The President of Cyprus had personally been informed that the plane was on its way to Larnaca, no objections had been raised and the C-130 was duly given permission to land. Precise details however about the number of men on board and their exact intentions do not appear to have been fully spelled out.

• For the next two hours the commandos remained in the aircraft on the ground at Larnaca while a detailed study and assessment was carried out of the Cyprus Airways plane in which the two gunmen were holding the 11 hostages and the three-man crew.

• The Egyptians then launched of Cairo's Al Ahram newspaper, their attack on the aircraft at the Hilton Hotel in Nicosia on about 8 p.m. As they opened Saturday morning, suspicions came under return fire from government was not doing all Cypriot national guardmen. Officials here emphasised that it might to capture the two killers. This impression would have been "total suicide" fuelled by television coverage to storm the plane if it had been known that the more heavily armed Cypriots would resist, as the two gunmen were clearly there was a complete allowed to remove their hostages from the hotel and take between the Egyptians and them by bus to the airport. These pictures caused a deep impression in Cairo as did the of the Cypriots and that they for which are now slowly becoming clear. After the initial anger and dismay at the murder of Mr. Youssef Siba, the editor-in-chief of the island.

It was then recalled that the Cypriot authorities were said to security at the Hilton hotel had been in regular contact. Egyptian anger has also been given the potentially vulnerable intensified because they failed position of prominent Egyptians to capture the two terrorists who had accompanied President Sadat to Jerusalem and information about the possible extent of further planned attacks. His peace initiative. After the murder of Mr. Siba, who was for extradition but are privately clearly singled out as the only victim of the attack, some of the hostages appear "rather relaxed" to television viewers here.

Given this background, the Egyptian authorities became even more anxious when the aircraft arrived back in Cyprus late on Sunday afternoon to accompanying reports that the Syrian regime had given permission for it to land at Damascus because of "humanitarian considerations." Since Egypt has broken off diplomatic relations with Syria there was a fear that President Hafez al-Assad might state that the two killers were being handed to the Palestinian Liberation Organisation for punishment and that nothing more would be heard.

Egyptian officials said to-day that the decision to move in had been taken because no progress toward freeing the hostages was being made in the negotiations between the two terrorists and the Cyprus government. It was feared that an agreement had been reached to allow the aircraft to take off again.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghali to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two

terrorists. It was stated here that it was a fait accompli.

The raid left 15 Egyptian commandos dead, 16 injured, and 7 Cypriots injured, including 6 soldiers and one civilian and badly damaged three planes.

CAIRO, Feb. 20



An Egyptian air force Hercules destroyed by Cypriot national guard gunfire at Larnaca airport.

Egyptian troops not prepared for objections by Cypriots

BY MICHAEL TINGAY AND ANDREAS HADJIPAPAS IN NICOSIA, FEB. 20

THE BLOODY fiasco at Larnaca, including an Egyptian C-130 members of the Cyprus Government. They were made aware of the successful negotiations in the United States.

The chronology of events leading to the airport battle between Cypriot and Egyptian troops was not told the secret terms and the promise of passports.

Mr. John Christodoulos, Cyprus' Foreign Minister, claimed here, that the American anti-terrorist commando unit was not the result of lack of communication between Cypriot and Egyptian officials.

The view here is that it seems to have been caused because those who planned the operation in Cairo gave the Egyptian soldiers no contingency order.

anticipating refusal by the Cyprus Government to permit an Egyptian Entebbe-style rescue once the arrival of commandos.

Mr. Sadat to-day conferred with Vice-President Hosni Mubarak at Ismailia having already despatched the Minister of State at the Foreign Ministry, Dr. Boutros Ghali to Nicosia to arrange for the release of the surviving Egyptian troops, and to seek the extradition of the two

terrorists. It was stated here that it was a fait accompli.

The raid left 15 Egyptian commandos dead, 16 injured, and 7 Cypriots injured, including 6 soldiers and one civilian and badly damaged three planes.

11.00 a.m.: Two Palestinian men registered in the hotel as a Kuwaiti named Zaid el All and an Iraqi, Riyad Samir el Ahad, who had been guaranteed a

warning that they would be among the first to be released if the death of the hostages was not honoured.

12.00 a.m.: The Egyptian Government, who had been negotiating with the gunmen, would also be guaranteed a

13.00 a.m.: All non-AAPO delegates, all women, and all non-Arabs were released from the coffee shop by the two gunmen.

14.00: Mr. Christodoulos, Minister of Interior, and Cyprus Socialist Party leader Vassos Lyssarides accompanied the remaining 15 AAPO hostages on a bus to Larnaca airport.

20.00: Three hostages were released from a Cyprus Airways DCS (provided by the Government with a volunteer crew), including Arik Sherif, an elderly Iraqi, and two members of Lebanon's Progressive Front.

20.30: The Cyprus Airways DCS took off with 12 hostages, two gunmen, and four crew, on a 31-hour journey to the Red Sea port of Djibouti and back, during which time three Arab countries (Libya, South Yemen, Iraq, and Algeria) refused them landing permission.

21.30—18.00: The DCS returned to Larnaca, followed shortly by a "Rewards" (unknowable to passengers) by an Egyptian air force C-130 transport plane, carrying a 74-man anti-terror commando. The C-130 could not be seen by the gunmen and the Cyprus Government believed it was carrying the Egyptian Minister of Information.

Cyprus officials approached the Egyptian plane, preparing to receive the Minister whom they had been told by Cairo would help them in negotiations. It was only at this moment that Cyprus officials claim they realised that Egypt had been planning to storm the hostage plane, regardless of President Kyprianou's wishes.

At about the same time, Mr. Lyssarides spoke with the Palestinian gunman from the ground below the DCS and successfully negotiated the release of the hostages. The terms were kept secret, but it has been subsequently learned from a reliable source that two Cyprus passports were being prepared to give to the gunmen, who would later have flown to Athens and not to the Egyptians believe.

At about the same time, Mr. Lyssarides spoke with the Palestinian gunman from the ground below the DCS and successfully negotiated the release of the hostages. The terms were kept secret, but it has been subsequently learned from a reliable source that two Cyprus passports were being prepared to give to the gunmen, who would later have flown to Athens and not to the Egyptians believe.

Meanwhile, journalists from the far side of the strip reported small arms fire and men they believed to be AAPO delegates. Unidentified men in the buildings were taking up machine guns, according to witness on that side of the airport. It is not known if these men were firing at the DCS or the C-130, which was badly damaged by shellfire.

The fierce battle that lasted 50 minutes, during which the DCS was hit by fire, the Lear Jet was hit by cross-fire, and the C-130 was badly damaged by shellfire.

The fierce battle that lasted 50 minutes, during which the DCS was hit by fire, the Lear Jet was hit by cross-fire, and the C-130 was badly damaged by shellfire.

Four Egyptians, including the Ambassador to Cyprus, the military attaché and two senior officers, who had flown to Nicosia after Siba's murder on Saturday, held heated talks with

Editorial comment, Page 18

New demands in flexibility: for a major Italian bank 1,000 Olivetti terminals. Banks know whom to trust.

The problem

To further strengthen the management information system and real time network which links the bank's branches and computer centre. To give greater flexibility and speed to all customer transactions and to provide a clear, up-to-date picture of the bank's balance sheet.

The customer

Banca Commerciale Italiana: with a network of 300 bank offices in Italy and branches in all the financial centres of the world. One of the largest European credit institutions.

The solution

Utilizing the Olivetti TC800 terminal system to extend and modernize the bank's information system, thus speeding and intensifying the two-way data flow between branches and the computer centre.

The choice

A special version of the Olivetti TC800 system was chosen for its greater flexibility and adaptability to all types of large data processing and transmission networks, and for its proven reliability and ease of use.

Companies everywhere are choosing Olivetti systems

Here are the latest world-wide totals: 330,000 accounting machines; 140,000 data processing systems and personal mini-computers; 65,000 terminals and data collection units; 150,000 teleprinters and telecommunications units.

THE INTELLIGENT CHOICE IN DISTRIBUTED PROCESSING

olivetti

British Olivetti Ltd., 30 Berkeley Square, London W1X 6AH

OTHER EUROPEAN NEWS

Mounting apprehension in Lisbon at IMF demands

BY JIMMY BURNS

PORTUGAL'S SECOND constitutional government will discuss its economic programme with the IMF which was "catastrophic" and the opposition parties this week, and to already increased political and social tensions.

Fears about the consequences of negotiations with the IMF, which is to be held over the week-end, by António Soárez Franco, the head of the Social Democratic (PSD) Party, Portugal's main opposition party.

O Diário, the Communists' leading newspaper, plans to reproduce tomorrow the full text of the "letter of intent" signed by the Italian government last April, in which the Italian government said the IMF was in danger of becoming a threat to foreign investors.

The letter is prepared in its negotiations with the IMF.

Swiss franc value rises

BY JOHN WICKS

THE SWISS franc showed a new leap against all other currencies today. Trade-weighted appreciation, expressed as the growth on day, rates of other currencies and the exchange rate against a 15-fall of sharp during trading currency basket, rose by more than 1.5 points over Friday's time, to 82.820 level to 86.9 percent. This means strengthening. The value of the Swiss franc has the closest Sterling, after almost doubled for major trade partners since the currency record low levels of both basket was started just over six months ago, and below 100 cents, respectively. The Swiss franc is said to be intervened heavily today.

In fact, the increase was even greater than this figure indicates.

OVERSEAS NEWS

U.K. must adjust to new role, says Judd

By David Housego

BRITAIN would have to leave many of her traditional industries to the third world and concentrate on those which had a high input of skills. Mr. Frank Judd, Minister of State in the Foreign Office, said in Vienna yesterday.

He declared that such redeployment across national boundaries was necessary, though adjustment by Britain to a new economic role was not easy. Heavy import controls or drastic cuts in overseas aid, he believed, were very short term answers.

Mr. Judd declared that it would become increasingly necessary for industrialised nations to come to terms with a number of the third world's objectives even if there were doubts about the specific mechanisms proposed. Unless the change of heart took place, the criticism made by the West of most mechanisms would inevitably be treated as delaying tactics and incur contempt.

He remarks seemingly aimed at displacing Britain's image as one of the "hawks" among industrialised nations. Mr. Judd said that it might have to be accepted that a blurring of the traditional divisions between primary producers and industrialised nations would call for changes in international institutions.

Kuwait talks on plant

By Richard Johns

NEGOTIATIONS BEGAN at the weekend between the Kuwait Government and some 20 potential customers for the output of the state-owned \$1.2bn. Natural Gas Liquids plant, which is scheduled to come on stream in the second-half of this year.

A number of potential customers, particularly from Japan, are said by Kuwaiti officials to have expressed keen interest in purchasing the output. But talks are taking place amid some uncertainty as to exactly how much propane, butane and natural gasoline there will be for sale.

Total design capacity of the three identical units is put at 10m. barrels a day of propane, 55m. b/d of butane and 41m. b/d of natural gasoline.

Among the companies negotiating are reported to be Gulf Shell, Continental, Phillips Petroleum, Northern Liquid Fuels, Texas Eastern, Bridgestone, Idemitsu Kosan, Kyodo, Maruzen, Mitsubishi, and Marubeni.

Japan signals resumption of talks on China treaty

By CHARLES SMITH, FAR EAST EDITOR

JAPAN'S ambassador in Peking Democratic party, an indication that he may at last have been instructed to prepare that he may at last have for an early resumption of achieved a political consensus on negotiations on a treaty of peace the treaty issue.

The Japanese ambassador is Mr. Taku Fukuda, the Prime Minister, and friend with China, Mr. Shoji Sato, met China's Vice-Foreign Minister, Mr. Han Nien-Lung, last Tuesday.

This is the first on-the-record official indication that Japan expects to sign the long-pending treaty some time in the fairly near future. Negotiations have been suspended since soon after they began in spring 1975

ostensibly because of disagreement about the "anti-hegemony" clause China wants to include. This would commit both signatories to oppose attempts by third countries to establish hegemony in the region intended by China as a dig at the Soviet Union.

Another, at least equally, serious obstacle has been opposition to the treaty by the pro-Taiwan lobby within Japan's ruling Liberal Democratic party. Mr. Fukuda stated yesterday that the news of the signing ceremony came after a weekend of consultations with pro- and anti-Taiwan sectors of the Liberal in Peking last week of an 8-

TOKYO, Feb. 20.

year \$20bn. trade agreement between China and Japan. The trade pact and the treaty together would seem to provide the basis for a considerably closer and friendship with China.

Mr. Han Nien-Lung, last Tuesday

to discuss the prospects for reopening the treaty negotiations and apparently found the Chinese and Japanese positions on the anti-hegemony clause not too far apart for fruitful negotiations.

The next steps in preparing for negotiations will involve further meetings between Mr. Sato and Vice-Minister Han, after which there is a possibility of a visit to Peking by Japan's Foreign Minister, Mr. Sunao Sonoda. It is not clear yet whether the signing ceremony will take place in Tokyo or Peking, but it is known that Mr. Fukuda would like to visit China either at or after the signing.

The news that treaty talks are to go ahead soon follows a day or two after the signing, is developing with China while relations with Russia grow steadily cooler.

Bill will abolish 'Gandhi distortions'

By K. K. SHARMA

NEW DELHI, Feb. 20.

THE INDIAN Government plans to "abolish the distortions" in for total abolition of such Draconian powers

Mrs. Indira Gandhi. This will be done through a bill to be passed in the budget session of parliament, which began to-day, following detailed discussions with opposition parties, including the Congress.

This was announced to-day by the Indian President, Mr. N. N. Sanjiv Reddy, in his opening address to both houses of parliament. He said that there was no higher than in "in particular, a need to build a bulwark against any possible. He announced the government's future bid to use the constitution to negate and subvert the development by terminating the basic principles of democracy." The fifth five-year plan a year in

accordance with the government's election pledge to remove the "distortions" in the constitution.

"The primary objectives would be the removal of unemployment

and substantial underemployment, the notorious Maintenance of Internal Security Act (MISA) under which thousands were detained without trial by Mrs. Gandhi. But he indicated that some kind of preventive detention is to be provided for, which means the government has re-

Soweto schools boycott relaxes

By Quentin Peel

JOHANNESBURG, Feb. 20.

THOUSANDS of Soweto schoolchildren who were staying away from school in protest against the system of segregated education in South Africa have now registered to return. It was claimed to-day. A majority of the township's secondary schools have now reopened as the buyout which began last July has petered out, the Director of Education for Soweto, Mr. Jaap Strydom, said.

The return of the schoolchildren still brings the total of pupils in secondary schools nowhere near the 27,000 attending last year, but it is in marked

contrast to the successful

of the Government's community council elections which took place at the weekend, and in which only 492 voters turned out.

Police in the township also report a much lower level of disturbances from idle children, as many are now either back in school or have been sent to boarding schools in their tribal homelands, or have gone to look for work in Johannesburg.

PAKISTAN FACES LENGTHY MILITARY RULE

Army politics and Mr. Bhutto remain the keys to the future

By DAVID HOUSEGO, RECENTLY IN PAKISTAN

FOR THOSE who lived through the rioting last year that turned many of Pakistan's major cities into ugly battlefields, there is now at least the comforting relief of returning to the familiar landmarks of daily routine.

Schools and universities have reopened, families at week-ends picnics in the public gardens that the army used for so long as a bivouac for troops and tank-shockers no longer live in fear of demonstrators hurling stones through their windows. Factories are back at work—though jobs are fewer because employers have laid off surplus labour.

But beyond this immediate sense of stability is the foreboding that the country is in for another protracted period of military rule, masking an even deeper crisis than before the army took over in July. The most visible reminder of the division to resolve its continuing divisions in the cordon of armed guards around the Lahore High Court where Mr. Bhutto, the deposed Prime Minister, is on trial for murder—a charge that makes him liable to hanging.

The guards are necessary, because Mr. Bhutto for all his many wars, is still the tallest political figure in the two main provinces of the Punjab and Sind and the likely victor of any new electoral contest. The army cannot risk his return to power because they fear retaliation against those who overthrew him.

Thus any re-run of the March 1977 general election—the one way of deciding whether Mr. Bhutto's Peoples Party or some grouping of the rival Pakistan National Alliance should run the country—is for the moment unthinkable. The only politics that matters is the manoeuvring within the army.

In this uneasy situation, the business community is holding back from investment. Better rice and cotton crops this year with some pick up in manufacturing production after the chaos last year mean that the economy is likely to register what appears on paper as an impressive growth rate of 6 per cent for fiscal 1977/78.

In practice the country teeters on the edge of insolvency with the current account deficit expected to widen a further 6 per cent to \$1.5bn. and the budget deficit rising as well—largely because Mr. Bhutto wildly over-spent while looking to his creditors to keep his government afloat.

The army, reacting to civil service advice, has begun pruning back expenditure and raising new taxes. But there is a limit to the unpopularity it can risk. Already there is grumbling at the increase in taxation due—a long needed measure—and at the laying off of factory workers

to lower production costs. Both is partly because of the measures bit harder at the quency with which he has retracted past decisions, making the backbone of Mr. Bhutto's the joke that CMLA stands for "Contrary to my last announcement" common coin among his headquarters staff in Rawalpindi.

General Zia has scant respect for senior politicians of the People's Party and the PNA, believing that they are "largely ignorant and ill-informed." The politicians do not have much faith in him. Wall Khan, the Pataan leader and the only figure of stature beside Mr. Bhutto, is giving tacit support to the military, but mainly for its fourth time since independence the country has drifted into military rule because of an inability to resolve its political deadlock. As on such occasions in the past there is a turning point, when the hope that they will destroy Mr. Bhutto, whom he has a deep personal antipathy, once and for all.

At Marshal Asghar Khan, the effective leader of the PNA, and now running his own party, sees the army standing between him and the premier-staff. Mufti Mahmud, the president of the PNA, is quietly helping to discredit the military leadership by implying that General Zia is ready for some deal with India.

But in the still one of the stem remains Mr. Bhutto, who can claim to have brought down three Pakistan regimes—President Ayub, General Yahya's and his own—and now threatens the present one. General Zia's hope is that under the weight of charges being levelled against him over corruption and the misuse of power, Mr. Bhutto's popularity will vanish into thin air.

So far Mr. Bhutto has been richly grown in size. The power imprint in the way that he still holds over the Punjab and Sind makes the army and his political opponents all the more determined to put him down.

Removing Mr. Bhutto from public life, however, is not the same as ridding the country of Bhuttoism, any more than the removal of General Peron laid low the ghost of Peronism. To millions in Pakistan he has been the one leader since independence who has talked directly to them and has espoused the cause of the poor. His charisma has been increased by the ineptitude with which the army handled his arrest and the doggedness with which they are now pursuing him through the courts.

Even lawyers in Lahore have doubts about the fairness of his present trial for murder. Because of the blow to the army's prestige if he was acquitted, even though the trial originated as a private case—the pressures on the court are inevitably great. On the other hand it is hard to conceive that the army would let them achieve the clean up in the four remaining provinces that eluded them in Bangladesh.

But what to do with Mr. Bhutto

is going to remain a continuing

nightmare. The weariness that has set in after the agitation last year means that there is little danger for the moment of a mass movement blowing up in his favour.

But with the ever

present spectre of rising prices and insufficient jobs, the clock ticks to his advantage.

Against this background of

potential violence, the sensible

economic measures that the army has taken seem like drawing

in the sand. Taxes have been

raised and expenditure is being

slowed down on some of the

massive low priority projects,

such as the Karachi steel mill,

initiated by Mr. Bhutto. But

there is little room for

manoeuvre.

Having obtained a rescheduling

of repayments on the \$870m.

loan from Iran, the regime is

now looking for further debt

relied on the donor members

of the Aid to Pakistan con-

sortium. General Zia hopes that

rising exports will reduce the

trade deficit which is expected to climb further 18 per cent this year to \$1.5bn.

He points to the country's

rich agricultural resources—to

which could be added increasing

oil and oil production and the

spin off in three to five years

from new fertilizer plants and

the full development of the

hydroelectric and irrigation

potential of the Tarbela dam.

But though the conservatism

is likely to agree to a rescheduling,

members as divergent as the

U.S. and the Dutch have been

hostile to the idea of

the new government.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

been given a free hand to

carry out its policies.

Even so, the army has

<p

HOME NEWS

British Leyland plan to build on success

BY TERRY DODSWORTH, MOTOR INDUSTRY CORRESPONDENT

BRITISH LEYLAND plans to give greater priority to the original programme worked out development of its successful three years ago. It is expected that the National products, such as its four-wheel drive vehicles and its Rover and Enterprise Board will be in a position to pass the plan to the Department of Industry, the final arbiter on the supply of funds to the motor group by the end of the month.

The plan also calls for a re-phasing of investment in the Leyland Vehicles (truck and bus) division to give it more developed since Mr. Michael

Edwards became chairman of the group three months ago, is that the company is putting greater emphasis on its known areas of strength.

This attitude will mean attempting to speed up the expansion project for the Land-Rover and Range Rover vehicles, and putting new emphasis into achieving better output of the Rover saloon range.

The Rover, for example, has been a great marketing success—but more than nine months after the launch of the new 2600 cc and 2300 cc engine versions of the car, almost none of the smaller-engined varieties has been made.

On the truck and bus side, Leyland analysts are uncomfortably aware that sales have been slipping markedly in the U.K., while its vehicles are becoming increasingly outdated in overseas markets.

The other members of the Board will be: Mr. Colin Daniel, director of finance and systems; Mr. John Hirsch, director, cars marketing staff; Mr. Spen King, director, engineering; Mr. Ray Horrocks, managing director, of this year.

He said recently that the production this year must be in the form of equity, and Leyland is expected to ask for about £400m. to be provided in this form out of a total of £850m. for the five-year period. This could go up to £1bn. if the company's performance is good enough to encourage further investment.

Sir Leslie Murphy, chairman of Birmingham Partnership Committee, responsible for generating new employment under the Government's policy for regenerating inner city areas.

Shop stewards reacted angrily last night to the company's announcement. "We intend to fight the decision," said Mr. Tom Burke, the Transport and General Workers Union senior steward.

A mass meeting will be held to-morrow to consider appropriate action, he said.

Cadbury-Schweppes is to con-

Whitehall split on Typhoo closure

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

THE decision announced yesterday by Cadbury-Schweppes to close its Typhoo tea packing factory, in Birmingham, with the loss of 550 jobs, has exposed a clash of interest between Government departments.

The Department of Industry is believed to have approved the transfer of work to the company's plant at Moreton, near Birkenhead, a specially-assisted area where unemployment is high.

Other Ministers have expressed concern at the impact of closure of the Bordesley Street plan on Birmingham, which is anxious to bring employment to its declining inner city area.

The Department of the Environment announced last night that Mr. Reg Freeson, Minister for Housing and Construction, would meet Sir Adrian Cadbury, the company chairman, on Thursday to explore the future use of the factory and alternative employment prospects for the workers.

Mr. Freeson is chairman of the Birmingham Partnership Committee, responsible for generating new employment under the Government's policy for regenerating inner city areas.

Shop stewards reacted angrily last night to the company's announcement. "We intend to fight the decision," said Mr. Tom Burke, the Transport and General Workers Union senior steward.

A mass meeting will be held to-morrow to consider appropriate action, he said.

Cadbury-Schweppes is to con-

Edwardes will still run car division

MR. MICHAEL EDWARDES, chairman of British Leyland, will continue to run the group's cars division for the time being.

His decision, announced yesterday, illustrates the difficulties Leyland is facing in attracting new high-calibre management.

Mr. Edwardes has stressed repeatedly that he does not want to get immersed in the day-to-day activities of the individual product groups.

But so far he has failed to find anyone to take the central job as executive vice-chairman of BL Cars, with responsibility for BL Cars, despite approaches to senior figures in the industry, such as Mr. Bob Lutz, president of Ford of Europe, and Mr. Bob Price, chairman of Vauxhall.

In a statement yesterday, BL Cars said that Mr. Edwardes tors.

Sales of used vehicles rise 28%

TURNOVER IN the U.K. motor trades rose by 17 per cent. in the fourth quarter of last year compared with the same period in 1976.

The largest component in the

rise was used vehicle sales, which went up by 28 per cent.

New vehicle sales rose by 22 per cent., and other sales and receipts, including petrol, oil and tyres, rose by 12 per cent.

Last year as a whole, turnover by

in the motor trades was 22 per cent. higher.

Rises in sales of new and used vehicles rose by 28 and 24 per cent. respectively, while other sales and receipts went up by 18 per cent.

ESSO CHEMICAL is to expand

production will be routed to a

new phthalate plasticiser plant

which is being built by Essochem

Benelux in Rotterdam. The

plasticisers will be for use in

the production of flexible PVC

(polyvinyl chloride).

Esso has no plants in Europe

for the conversion of higher

olefins to the intermediate

alcohol stage, with this part of

the manufacturing chain being

contracted to other chemical

producers.

Heptene capacity, which will

be increased by 50 per cent., is

currently set at 50,000 tonnes a

year. The higher olefins are used

as plastics and oil industry addi-

tives and as detergent raw

materials.

After conversion to the inter-

mediate alcohol stage, much of the

additional octene and nonene

awarded to Matthew Hall.

production will be routed to a

a new phthalate plasticiser plant

which is being built by Essochem

Benelux in Rotterdam. The

plasticisers will be for use in

the production of flexible PVC

(polyvinyl chloride).

Esso has no plants in Europe

for the conversion of higher

olefins to the intermediate

alcohol stage, with this part of

the manufacturing chain being

contracted to other chemical

producers.

Heptene capacity, which will

be increased by 50 per cent., is

currently set at 50,000 tonnes a

year. The higher olefins are used

as plastics and oil industry addi-

tives and as detergent raw

materials.

After conversion to the inter-

mediate alcohol stage, much of the

additional octene and nonene

awarded to Matthew Hall.

production will be routed to a

a new phthalate plasticiser plant

which is being built by Essochem

Benelux in Rotterdam. The

plasticisers will be for use in

the production of flexible PVC

(polyvinyl chloride).

Esso has no plants in Europe

for the conversion of higher

olefins to the intermediate

alcohol stage, with this part of

the manufacturing chain being

contracted to other chemical

producers.

Heptene capacity, which will

be increased by 50 per cent., is

currently set at 50,000 tonnes a

year. The higher olefins are used

as plastics and oil industry addi-

tives and as detergent raw

materials.

After conversion to the inter-

mediate alcohol stage, much of the

additional octene and nonene

awarded to Matthew Hall.

production will be routed to a

a new phthalate plasticiser plant

which is being built by Essochem

Benelux in Rotterdam. The

plasticisers will be for use in

the production of flexible PVC

(polyvinyl chloride).

Esso has no plants in Europe

for the conversion of higher

olefins to the intermediate

alcohol stage, with this part of

the manufacturing chain being

contracted to other chemical

producers.

Heptene capacity, which will

be increased by 50 per cent., is

currently set at 50,000 tonnes a

year. The higher olefins are used

as plastics and oil industry addi-

tives and as detergent raw

materials.

After conversion to the inter-

mediate alcohol stage, much of the

additional octene and nonene

awarded to Matthew Hall.

production will be routed to a

a new phthalate plasticiser plant

which is being built by Essochem

Benelux in Rotterdam. The

plasticisers will be for use in

the production of flexible PVC

(polyvinyl chloride).

Esso has no plants in Europe

for the conversion of higher

olefins to the intermediate

alcohol stage, with this part of

the manufacturing chain being

contracted to other chemical

producers.

Heptene capacity, which will

be increased by 50 per cent., is

currently set at 50,000 tonnes a

year. The higher olefins are used

as plastics and oil industry addi-

tives and as detergent raw

materials.

After conversion to the inter-

mediate alcohol stage, much of the

additional octene and nonene

awarded to Matthew Hall.

production will be routed to a

a new phthalate plasticiser plant

which is being built by Essochem

Benelux in Rotterdam. The

plasticisers will be for use in

دستور الالجى



We don't want you to look silly in a few years time.

A remarkable thing often happens when you first install a computer. The extra efficiency it brings can help your company to grow even faster than you anticipated.

But growth itself can bring problems.

The computer system you choose today might well be unable to cope tomorrow.

Which, considering the investment you're making, is a ridiculous state of affairs.

That's why, at NCR, each computer system in our 8000 Series is compatible with all the others in the range. Allowing you to migrate to any level of computer technology.

As you grow, there's no need to invest in new software each time. An enormous saving, made even better by the fact that we offer one of the most comprehensive ranges of economical, ready-made software packages.

But then, as a company we know quite a bit about growth.

We grew to be the largest worldwide suppliers of retail terminals and electronic banking equipment. And we've grown to be the third largest suppliers of EDP equipment.

The next few years we're expecting to look even better.

NCR

NCR Computers. Designed to grow with you.

NCR Limited, 206 Marylebone Road, London, NW1 6LY. Telephone: 01-723 7070.

HOME NEWS

Channel hovercraft will not be ready

BY IAN HARGREAVES, SHIPPING CORRESPONDENT

FRANCE'S NEW £10m. N500 lengthened by the British Hovercraft Corporation in Cowes, the biggest in the world, has run into mechanical problems and will not be ready for cross-Channel services next month as planned.

The hovercraft Ingenieur Jean Berlin is at the moment sitting on shore at Boulogne instead of being put through sea trials of Dover, where it is due to join the railway-owned Sealink fleet on the Dover-Boulogne/Calais run.

Although British Rail Seaside officials hope the N500 will be ready for service at the end of April, in time for the summer holiday rush, they are disappointed that they have been let down again by the French craft.

The first N500 should have entered service last summer, but it was burned out on its pad when a welder's torch set fire to the hovercraft's skin. This left Seaside with only one standard 250-sea SN4 for the whole summer period because its second craft, the Princess Anne, was being

lengthened by the British Hovercraft Corporation in Cowes. Seaside, the marketing organisation jointly funded by British Rail and Société Nationale des Chemins de Fer, has started advising passengers that their bookings on the N500 have been transferred to the SN4 or to conventional Sealink ferries.

It also has been forced to cut back on advertising campaigns at a time when cross-Channel operators are vying for what is expected to be record traffic this summer.

Mr. John Lefèvre, managing director of Seaside, confirmed that the main cause of the delay was trouble with the N500's skirt, but he said the manufacturers had now solved an earlier problem with the hovercraft's propeller.

He said: "I will not deny that we are all feeling a bit sorry for ourselves here and that the French are having to cope with a dent to their amour propre." The N500 is a project of 1.25m. in 1978.

Seaside had been counting on the N500 and the stretched craft together to increase passenger levels from last year's loss-making 500,000 to more than 700,000 in 1978.

West air link opens early

Airline denies plan to drop Concorde

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

REGULAR Air Westward flights to the West Country to France, Scotland and the Netherlands will begin on May 1—a month earlier than expected.

Mr. Peter Cadbury, chairman, announced yesterday that the airline subsidiary of Westward Television will start daily services from Exeter to Paris and Glasgow and twice daily flights to Amsterdam with 12-seater Cessna Titan aircraft. The first of three Titans has already been delivered.

"These aircraft will give more flexibility during the initial period when we are learning in which routes are most in demand," said Mr. Cadbury, who revealed that the company had abandoned plans to buy the 18-seater Embraer Bandeirante turboprop aircraft.

"The decision follows frustrated efforts on our part to mount schedules using the Bandeirante for the 1978 summer season. We just ran out of time."

Air Westward was to have been the first British airline to operate with the Brazilian-built aircraft. But Mr. Cadbury points out: "The Titan has proven passenger appeal and is ideal for exploring the market. We will monitor developments in order to switch to bigger aircraft as soon as they are justified. But for the moment, we will concentrate on pioneering a new airline rather than a new aircraft."

Final details of Air Westward schedules and fares are now being worked out and will be announced next month. An application to link Exeter and Gatwick with regular long-haul flights is due to be heard by the Civil Aviation Authority in the next few weeks.

BRITISH AIRWAYS denied yesterday that it was thinking of dropping its Concorde operations, even though they are still losing money.

Suggestions to that effect were made following unconfirmed reports from Paris that Air France was increasingly concerned about losses, and might suspend Concorde operations, with its four aircraft.

For the biannual year ended March 31 last year, British Airways incurred an operating loss of £8.5m. on Concorde, but this was on a limited number of routes—to Washington and Bahrain—giving a utilisation of only one hour per aircraft per day. Since then, the aircraft has begun flights also to New York, and briefly also to Singapore.

Robert Maulliner writes from Paris. The French Government does not intend to oblige the State-owned airline, Air France, to stop operating its loss-making Concorde in the foreseeable future. French officials said.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can. To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

Robert Maulliner writes from Paris. The French Government does not intend to oblige the State-owned airline, Air France, to stop operating its loss-making Concorde in the foreseeable future. French officials said.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing rights in New York, and the diplomatic representations made by President Giscard d'Estaing, it is considered inconceivable that the Government is planning to abandon Concorde at this stage.

British Airways' overall plan is to expand Concorde operations whenever and wherever it can.

To this end, it is still hopeful that it can resume the joint operation with Singapore Airlines to Singapore via Bahrain within a few weeks, when the differences with Malaysia over Concorde over-flying rights have been settled.

While British Airways accepts

that it will take time for the Concorde operation to generate profits, it still believes that the

longer run is another matter.

The officials were commenting on Press reports suggesting that such a move was in the offing.

It is pointed out in Paris that a decision to scrap Concorde would have to be taken at the highest level, and would require the approval of the President of the Republic himself. After all the publicity that was given in France to the legal proceedings to obtain landing

It's Ice Cream has a marketing head

Bouchier has been appointed director of ICE CREAM LTD. He replaces Mr. Moss, who has been taken up a senior post in Unilever. Based in Mr. Bouchier was director since the company's inception, who now assumes the position of managing director.

Guardian Royal Exchange Assurance: Mr. J. D. Brennan, chief accountant (overseas) is to be an assistant general manager (overseas) and Mr. K. R. Boskirk, manager (overseas accounts) becomes chief accountant (overseas) from May 1.

Mr. Colin Parry is no longer managing director and director of F.T.S. (GREAT BRITAIN) the North Wales Film Transport Company and F.T.S. (Freight Forwarders).

Mr. Alan Main has been appointed Director of KINMONT REINSURANCE BROKERS.

Mr. R. G. Hall has been appointed director, BICC INTERNATIONAL, responsible for manufacturing and engineering services. Mr. Hall, who has been appointed director is Mr. Albert.

Mr. Morion has joined the TRIANGLE ALLOYS as works director and Mr. Perry has become and sales director. Mr. Morion has been appointed chief accountant. Mr. is formerly with O. H. Iiders and Engineers as operations manager. Mr. is also managing director of technical manager. Mr. earlier appointment was accountant to Stud-

Mr. K. Kerin, managing the insulation division, made a main Board DEBORAH SERVICES.

Mr. E. Moody has been president of the INSTI-ACTUARIES in succession. C. Michael O'Brien, of office will expire.

Brian, president of the Association and governor of the Bank, retires as a director of ANK ORGANISATION the annual meeting on Sir Robert Shone, who is Rank Board in 1983 rotation and has decided to seek re-election.

Mr. Black of William has been appointed director of THOMSON GROUP.

Dr. J. A. Kersley, technical director and Mr. sales director of Engineering.

H. Malkin, company of the Sterling Group, John T. Mills have been directors of UNITED CORPORATION. Mr. also appointed manager of the thermoplastics of Sterling Moulding. Mr. J. J. Fennell, a United Sterling Corp. has been made manager of the thermosetting of Sterling Moulding.

Mr. C. Bresley has been chief mining engineer of WIMPEY AND CO. Wimpey from PD-NCE, where he was deputy director and previously chief engineer.

new appointments have to the Board of R. K. AND CO. the executive responsible for sonic transducers and Parker. They are Mr. King, director, and manager of Ligasonic Pro. Harold Feist, general of the extensive Francis Aggregate operation, John Randa who has the southern area from where he was a senior of the Group's development.

Lane has become manager of SDS COMPON-

Mr. Wright has been appointed director of IHT, succeeding Mr. May who has become director of Silentime.

L. J. Stephen has been Deputy Under Secretary (Army). He will be Deputy Under Secretary (Navy) by Mr. A. A. Moore.

VAC MANAGEMENT Mr. Robert has become director of and Mr. Brian Levent of the North of England.

CONDITIONING EQUIP. Mr. Derek N. Barker, director, has relin-



Mr. R. G. Hall

BUSINESS AND INVESTMENT OPPORTUNITIES

READERS ARE RECOMMENDED TO TAKE APPROPRIATE PROFESSIONAL ADVICE BEFORE ENTERING INTO COMMITMENTS

Stephen Parkyn Limited

Merger and Acquisition Specialists

are working with public companies seeking successful businesses making at least £100,000 profit before tax in the following fields:

Electrical and mechanical product manufacture and distribution

Builders' merchants, services and products

Food processing

Non-food retail chains

Leasing and hiring services

Replies will be treated in strict confidence and will not be disclosed without permission.

4 Chandos Street, Cavendish Square, London W1M 0BH.

Manufacturers of Floor Coverings The Trading Assets of BARRY STAINES LTD.

(In Receivership) ARE OFFERED FOR SALE

TURNOVER—£5,000,000 approx.

MARKETS—60% U.K. 40% ABROAD

Product range includes linoleum, cork products, vinyl and other stickbonded contract carpets, vinyls and other smooth floor coverings. Good industrial relations with labour force of 400 approx. Well established marketing and sales organisations currently supplemented by warehouse facilities in the Midlands and London.

Enquiries in the first instance to:

THE RECEIVER'S OFFICE, BARRY STAINES LTD., NEWBURGH, FIFE, SCOTLAND

Telephone: Newburgh 421. Telex: 76198

BUILDING COMPANY-LONDON FOR SALE £450,000

Groundwork/Formwork sub-contractor to foundation level for local authorities housing estates, but sub-contracting for large public companies. Established 15 years, this company enjoys an excellent reputation in this particular field. Reason for sale: operations, now too extensive for working founder-proprietor who is, however, prepared to stay on as long as necessary to arrange a smooth takeover. Present workforce 70. Average annual profits exceed £70,000. Turnover to 31.12.77 £948,000. Profits £155,000. Cash at Bank £92,000. Debts £67,000. Current liabilities £69,000. P & L account credit balance £227,000.

A decision must be taken before the end of the financial year, either, so that the company can buy additional plant to minimise tax liability. Only professional men apply for this confidential advertisement.

Write Box G.1460, Financial Times, 10, Cannon Street, EC4P 4BY.

INTERNATIONAL COMPANY FORMATIONS

Jordan & Sons Ltd

Jordan House

47 Brunswick Place

London N1 6EE

Tel: 01-253 3030 Telex: 261010



Jordans

FOR SALE. JERSEY COMPANY.

Cash business with substantial net profits. Ideal for person who wishes to settle in the Channel Islands. Write Box G.1470, Financial Times, 10, Cannon Street, EC4P 4BY.

Small metal pressings firm

wanted by American buyer. Must have tool and die equipment and expert toolmaker to stay with firm. Press capacity required to 60-Tons. Prefer location North of greater London area.

Send full description of business including equipment. State asking price and terms in reply. Write Box F.605, Financial Times, 10, Cannon Street, EC4P 4BY.

VILLA FOR SALE

Fully furnished 6 bedroomed

located in small fishing village of SAN PEDRO DEL PINATAR.

MURCIA, near ALICANTE, SPAIN

Private garden of about one acre, with tennis, orange, lemon, peach, fig and olive trees, plus palms and cacti.

Full size tennis court, floodlit.

Detached garage with barbecue and swimming pool. Also there are further terraces, sunbathing areas and complete with Glascon sun-boat. Being offered complete for £14,000.000 plus any other currency. Current exchange rate £1.50. Persons interested please visit and inspect property.

Telephone: 0653 2410

WANTED

TAX LOSS COMPANY

PRINTERS AND

WHOLESALE STATIONERS

Contact: Box G.1473.

10 Cannon Street, London EC4P 4BY

Old established privately owned

Business Group in London Wall.

want to diversify their interests.

Established management and profit sharing. Profitable

businesses in non-labour

intensive areas sought. Cash invest-

ment of up to £250,000.000

to be created in the

strictest confidence. Please write to:

Box G.1057, Financial Times,

10 Cannon Street, EC4P 4BY.

SMALL MECHANICAL AND ELECTRICAL CONTRACTING COMPANY

in Northern England for sale as

a going concern. Principals only

to Box G.1475, Financial Times,

10 Cannon Street, EC4P 4BY.

GARAGE GROUP

is a progressing

international

operations and a disposal of two

franchised garages in France. Full

operation of car importers obtained.

Principals only, write Box G.1465, Financial Times, 10, Cannon Street, EC4P 4BY.

COMMERCIAL PRINTERS SCOTLAND

(Where printing is cheaper)

Offset litho and letterpress, technical

and instruction manual specialists,

stationery, bookbinders. Guaranteed delivery: J. R. Reid Printers, 109

Glasgow Rd., Blantyre, Glasgow

(0698) 823847

ALTON, Hampshire

Established sheet & offset printing

on a 99-year lease from 1968

producing £12,760 p.a. Underle-

asing: International Stores, Radiant

Wallpapers, Alton Gazette and D. of

E. Price 100% Freshfield. Full

details apply. Apply to Box G.1480, Financial Times, 10, Cannon Street, EC4P 4BY.

SUTTON'S COMMERCIAL

Sutton House, 4 Brunswick Place,

Southampton. Tel: (0703) 352323

10 Cannon Street, EC4P 4BY.

WORKING PARTNERS

Age 20-35 yrs, attractive person-

ality, initiative, good character,

and social background essential.

Office experience, O.C. or similar

considered. Box G.1466, Financial Times, 10, Cannon Street, EC4P 4BY.

TAX LOSS COMPANY

Dealing in Securities with agreed trad-

ing terms of about £250,000. Still

looking and willing to sell with or

without present holdings, mainly gilt.

E. & F. SECURITY LTD.,

9 Elmcroft Avenue, NW11 8RS

Tel: 01-581 5384

PRIEST BANKS

Export/Import Finance Co. Ltd.

Box 16, Maidstone, Kent.

CATERING EQUIPMENT

Manufacturers, Importers

Apparel, Textiles, Furniture, etc.

For SALE 50% interest in old es-

teal and new equipment companies.

Write Box G.1478, Financial Times, 10, Cannon Street, EC4P 4BY.

COMPANIES FORMED

Exclusively throughout the

world. Compare our prices.

ENGLAND £69

ISLE OF MAN £98.44

GUERNSEY £250

LIBERIA U.S.4570

SELECT COMPANY FORMATION.

Tel: 01-581 23718

1st Abel Street, Deptford, E. M.

Tel: 01-581 23554

FOR SALE

£10,000 C/S whisky, £5 C/S ex-

band, £10,000 C/S monthly JWB

etc. £60,



Christopher Lewinton, chief executive of Wilkinson Match.

WILKINSON SWORD came to peripheral interests. The 16 years ago by applying second stage was to re-organise blade, an initiative that the company into divisions dealing with regions of the world.

British Match was a long-established force in the world business. In 1973 they said because Wilkinson had an overseas sales force.

British Match needed products to sell.

The deal between Wilkinson Match and Allegheny is proposed with or of these products immediately in mind. It marks a offensive by Wilkinson.

market for garden tools in the U.S. where the True Temper subsidiary of Allegheny is per cent of the market in Britain where Wilkinson's importance to the garden business is less than its own brand name makes.

The deal therefore is a significant change of

in Wilkinson Match's

the merger in 1973, Christopher Lewinton, Wilkinson's chief executive, evolved a stage plan for the development of the group. The

task was to merge the top segments, to apply commonal controls to all parts of the company, and to dispose of

Acquisition necessary

Right from the start the top

management suspected that an

acquisition in the U.S. would

prove necessary, but it was not

until 1976, when the immediate

problems of the merger had

been tackled, that this loomed

in priority. "Then," says Lewinton, "it came through loud

and clear that Continental

Europe and North America had

not benefited from the merger.

There was a hole in our matrix

in the U.S. and we were a one-

product company (razor blades)

in Europe, outside the U.K."

Phase Two went ahead.

Marketing of Wilkinson's con-

sumer products—blades, writing

instruments, tools, matches

and lighters—was consolidated

around the world. Sales of the

company's other business, fire-

AUCTION

MAGNIFICENT VALUABLE OLD & ANTIQUE ORIENTAL CARPETS

An extremely outstanding collection of rare and perfect investment Category period Chinese carpets, including the ordered liquidation of a major portion of the collection of the late Mr. J. H. Buckley at a time when works of this proven potential were still occasionally available. Considering the enormous success of investing in specific oriental carpets, this auction provides an excellent opportunity to those rare occasions when it is possible to acquire the magnificent types of carpets which historically have shown the greatest investment return.

Included is a semi-antique all silk Kauhsien carpet, a rare antique all silk Kauhsien carpet, and a carpet never offered for sale on the open market, in exceptionally good condition.

London 2.56.02.1.7.2072.

Auction Saturday 25th February at 11.30 a.m.

Viewing from 9.30 a.m. in the Ballroom,

Hyde Park Hotel, Knightsbridge, London SW1.

Full Illustrated Catalogues (51) & further information from:

RIPON BOSWELL & COMPANY

Established 1884. International Auctioneers of rare Oriental rugs,

The Arches, South Kensington Station, London SW7 2NA.

Tel: 01-589 4242. Cable: Ripon, London SW1.

protection and pyrotechnic devices, were developed separately. But by the end of 1976 Randolph and Lewinton were starting to look for possible acquisitions in West Germany and in the U.S.

Nothing really caught their eye in Germany, and though they found what they were looking for in the U.S.—they hint at a company in the toiletries business—it was too much for Wilkinson to swallow.

In any case, geography was not the only thing on their minds. Mr. Lewinton explains: "We are committed to matches. We have shown what can be done with them. In the developed world it's a flat business, in the developing world it's a growing business. So that's fine—but it isn't a high growth situation. In the blade business we are facing major U.S. competition and with the advent of disposable razors we are going to have a period of two or three years with pressure on margins."

It was into this thinking that the idea of a get-together with Allegheny was seeded. Mr.

Robert Buckley, the president of Allegheny, visited Britain in February, May and July last year. He argued for some sort of co-operation between his garden tool subsidiary, True Temper, and Wilkinson, for which True Temper's Irish operation already made shovel, spade and fork blades. In May, according to Mr. Lewinton, Buckley suggested that Wilkinson buy True Temper. Wilkinson demurred.

What Denys Randolph calls the "trigger point" came in October-November, when Swedish Match decided that it wanted to sell various assets.

Mr. Lewinton calls True Temper "the Cinderella in the Wilkinson Match. Robert Allegheny stable because Buckley successfully sounded Allegheny does not understand our Swedish Match and then the consumer business." Mr.

nothing.

True Temper, the subsidiary

that Wilkinson will buy if shareholders agree, sells \$75m. of garden tools, \$25m. of golf-club shafts (in which it is market leader) and metal-frame tennis rackets, and \$25m. of railway track anchors, a lucrative sideline.

Mr. Lewinton calls True

including its 33 per cent stake in True Temper "the Cinderella in the Wilkinson Match. Robert Allegheny stable because Buckley successfully sounded Allegheny does not understand our Swedish Match and then the consumer business." Mr.

nothing.

True Temper figures do

not surprise. They have come off

Lewinton agreed to look into it the top." True Temper has a

well-established name and market position but there is "plenty

there to put right."

The company, which then

negotiated a deal which pro-

visionally gave it voting control

of Wilkinson, has annual sales

of \$10m. They are in the three

main areas: special steels and

metals, consumer products (gar-

den tools, sporting goods, large

lawn mowers) and industrial

gases and fire protection equip-

ment.

True Temper, the subsidiary

that Wilkinson will buy if share-

holders agree, sells \$75m. of

garden tools, \$25m. of golf-club

shafts (in which it is market

leader) and metal-frame tennis

rackets, and \$25m. of railway

track anchors, a lucrative side-

line.

Mr. Lewinton calls True

including its 33 per cent stake in

True Temper "the Cinderella in

the Wilkinson Match. Robert Allegheny stable because Buckley successfully sounded Allegheny does not understand our Swedish Match and then the consumer business." Mr.

nothing.

True Temper figures do

not surprise. They have come off

Lewinton agreed to look into it the top." True Temper has a

well-established name and market

position but there is "plenty

there to put right."

The company, which then

negotiated a deal which pro-

visionally gave it voting control

of Wilkinson, has annual sales

of \$10m. They are in the three

main areas: special steels and

metals, consumer products (gar-

den tools, sporting goods, large

lawn mowers) and industrial

gases and fire protection equip-

ment.

True Temper, the subsidiary

that Wilkinson will buy if share-

holders agree, sells \$75m. of

garden tools, \$25m. of golf-club

shafts (in which it is market

leader) and metal-frame tennis

rackets, and \$25m. of railway

track anchors, a lucrative side-

line.

Mr. Lewinton calls True

including its 33 per cent stake in

True Temper "the Cinderella in

the Wilkinson Match. Robert Allegheny stable because Buckley successfully sounded Allegheny does not understand our Swedish Match and then the consumer business." Mr.

nothing.

True Temper figures do

not surprise. They have come off

Lewinton agreed to look into it the top." True Temper has a

well-established name and market

position but there is "plenty

there to put right."

At the end of this week, shareholders in Wilkinson Match, the dominant British manufacturer of razor blades and matches, will be shown details of a deal that will leave a large part of its equity in U.S. hands. Allegheny Ludlum, an American special steels company, is to sell True Temper, its garden tool subsidiary, to Wilkinson on terms that will raise Allegheny's stake in the British company to 44 per cent.

It was only recently that Allegheny bought 29 per cent of Wilkinson from Swedish Match. The rapid succession of the two deals—awkwardly handled because of a leak in Stockholm—left British shareholders suspicious that

Wilkinson was being taken over on the cheap. Despite a revision of terms which deprived Allegheny of the prospect of voting control, the suspicions remain, and it is not certain that shareholders will approve the True Temper deal.

Whether Wilkinson shareholders are getting a good deal can be answered only when the terms are known. But there are other questions too. What motivated this link with Allegheny? A company virtually unknown in Europe? What will Wilkinson's customers and employees get out of it, quite apart from its independent shareholders? The Wilkinson chairman, Denys Randolph, and chief executive, Christopher Lewinton, have told the Financial Times how and why the deal came about.

True Temper will sell Wilkinson products as an up-market brand in the U.S. Wilkinson will broaden its product range in Britain. This, says Lewinton, will provide Wilkinson in the U.K. with a third consumer products leg—a growing one—alongside matches and blades.

Wilkinson will benefit from the large U.S. stake because this will open the government/military/aviation market to Wilkinson's Graviner fire-protection equipment. This market is difficult for a foreigner to crack.

Allegheny already sells special metal products into this same market. It has therefore established contact with the right purchasing agents.

The deal will broaden

Wilkinson's options in the U.S. razor blade market, where the company's share remains at around 7 per cent. Its current distribution agreement with Colgate-Palmolive expires in 1978.

Allegheny has undertaken to invest in ways that will help Wilkinson sell its products in the U.S. One way will be for Allegheny to buy U.S. companies making complementary products. They will sell Wilkinson products in the U.S. and Wilkinson will handle their overseas sales.

Wilkinson will more easily attract talented American management.

Wilkinson will commit itself in a big way to the garden



Robert J. Buckley, president and chief executive officer of Allegheny Ludlum Industries.

Wilkinson's status under the underlying idea remained wing of Allegheny Mr. Lewinton valid." explains: "We will not be part. Nevertheless it is not difficult of a consumer division of to envisage how conflicts of interest. We will be a public interest could arise. Wilkinson company called Wilkinson will be depending on its major Match which will provide the U.S. shareholder to buy consumer interests. The president ducts in the U.S. There could be a divergence of views over directly to me. My office will the right path to take. More remain in London, though I importantly, Allegheny's financial priorities might lean towards the special metals business or some other, leaving less cash for the consumer end.

The Wilkinson chief executive concedes that such problems are "part of the real world." He takes courage from the fact that before Allegheny approached Wilkinson, its management had said that they were going to emphasise the consumer business and to make 35 per cent of Allegheny's profit from outside the U.S. This, as he sees it, is what Wilkinson has been engaged to do.

Both men are confident that Allegheny is committed to this course. They appear undeterred by the unsatisfactory precedents for unconsolidated mergers—by the unhappy Dunlop-Firelli link up, or, more logically, by the current argument between BOC International and Alco.

Denys Randolph says, with the voice of one rather weary by the criticism that has greeted this deal: "Partnership depends on the partners. Partnerships work when both partners are getting something out of it. What do you do? Do you not have partnerships? Must you own everything 100 per cent? We honestly believe, and this to some extent is pioneering, that this sort of thing is going to happen more and more in the future."

ALLEGHENY LUDLUM'S MAIN COMPANIES

ALI METALS GROUP (special steels): Allegheny Ludlum Steel; Ajax Forging and Casting; Good Steel Service; Special Metals Corp.; Devco, Almet.

TITANIUM METALS CORPORATION OF AMERICA (producers of titanium and manufacturers of industrial rings, railway

ALI CONSUMER PRODUCTS GROUP (gard

LOMBARD

The spenders re-emerge

BY COLIN JONES

THE OTHER day the South be in local councils' own interest. For a rate of spending faster than GNP would have to be financed either by much higher rate calls (which would raise the spectre of another rates revolt) or bigger government grants. Not normally a matter, you might think, to Whitehall controls or more services being transferred to agencies of central government. A lot of hot water over its policy. True, the council got into a lot of hot water over its policy.

A change in attitude as fundamental as this is unlikely to come about naturally. The combination of Ministerial exhortation and Whitehall muscle which has recently brought the growth in local spending to a halt cannot be relied upon permanently. What is lacking is some automatic mechanism by means of which changing external circumstances can be brought quickly home to local councils.

Provision

If by this or some other means the growth in local spending is in future held to about that of the economy, public and political pressure for more services and better standards will be half-acknowledged, of this being an ambitious figure. The council is however emphatic that 5 per cent. a year will be hardy enough to accommodate all its aspirations. It clearly believes it is being not unreasonable.

Moderate

It is not hard to see why in the past local authority spending should have grown more rapidly than the economy generally. As affluence has risen, so proportionately more has tended to be spent on services rather than goods, and proportionately more of the growing expenditure upon services has tended to be spent on the kind of communal services provided by local authorities. This has been evident in other industrialised services which are commanding nations as well as here, and it is a diminishing priority? In short, has been going on for a very long time.

Between the 1970s and World War I, for example, local government spending in Britain is known to have risen from

about 2 per cent. to 6 per cent. of GNP; between the wars it rose at the same time provide a much steeper rise from 5 per cent. to 10 per cent. and since the late 1940s it has risen from 8-9 per cent. to almost 18 per cent.

It is obvious that this trend cannot go on for ever.

Snow or a later local councils (and the national politicians and pressure groups urging higher outlays on this or that) will have to moderate their aspirations to something more in line with the long-term growth rate of the economy. Indeed, in one important respect, such an alignment would all dearly want to encourage?

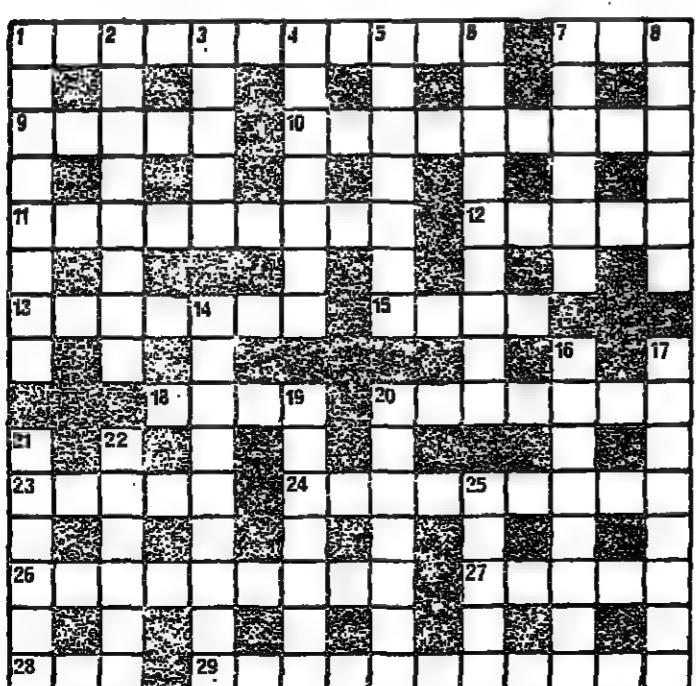
TV Radio

† Indicates programme in black and white

BBC 1

6.40-7.55 a.m. Open University. 8.10 For School, Colleges. 12.45 p.m. News. 1.00 Pobol Mh. 1.35 Ragtime. 2.00 You and Me. 2.14 For Schools, Colleges. 3.30 Pobol Y Cym. 3.52 Regional News for England (except London). 3.55 Play School (as BBC-2 11.00 a.m.). 9.00 News.

F.T. CROSSWORD PUZZLE No. 3599





FINANCIAL TIMES

BRACKEN HOUSE, CANNON STREET, LONDON EC4P 4BY
Telegrams: Finantime, London PS4. Telex: 386341/2, 883897

Telephone: 01-248 8006

Tuesday February 21 1978

An Egyptian blunder

WHEN THE Israeli Defence authorities on the ground. Forces performed their rescue act at Entebbe 18 months ago, there was widespread admiration for their daring and was the manner in which their mission was accomplished. There was similar admiration for the West Germans when they succeeded in freeing the hostages at Mogadishu last Autumn. The

two acts differed in that the Israelis were operating more or less on their own in territory that could certainly not be considered friendly, while the Germans had the co-operation not only of third countries, but also of the Government on whose territory the rescue was carried out. There were two common factors: one was success, and the other was a general feeling that in the circumstances the Israelis and the Germans were right to do what they did.

Precedents

And yet there were also more considered reservations. The premium on success was high. If the Israelis — and still more if the Germans — had made a mess of it, there would have been untold domestic and international consequences. In the German case, for example, it is difficult to see how Helmut Schmidt could have survived as Chancellor if he had presided over such an intervention, and failed to bring it off. There was also the danger of creating precedents, and indeed Entebbe itself was in a way a precedent for Mogadishu. Yet if the Israelis and the Germans could get away with such actions, why should not others follow suit?

There was the further danger, moreover, that they might do so at times when the case for military intervention was considerably less clear-cut. That is precisely what has happened with the Egyptians. It is hard to believe that they would have acted as they did in Cyprus last week-end if the precedents had not been set. But, unlike the Israelis and the Germans, the Egyptians failed to make adequate preparations. It is not even clear that their forces had a detailed battle plan in mind; they may even have lacked the right equipment. Unlike the Germans, they failed to secure the co-operation of it seeks to defeat.

Crime

It is important, of course, to have the co-operation of the authorities on the ground, as the Germans did. But it would be itself a revealing exercise to see which countries would refuse to subscribe to such a convention. The alternative is an invitation to international lawlessness which would be almost as bad as the crime which it seeks to defeat.

Britain's role in NATO

YESTERDAY'S Defence White Paper has already been attacked by the Left as a surrender to the "warhawks" and by the Right for "duplicity." But it is unlikely to remain a controversial document for very long. There is indeed virtually nothing new or surprising in it, as most major decisions had already been announced over the past few months. This may have been necessary, it has been suggested, to pre-empt Left-wing attacks on the increased defence spending. Another point it stresses is that the U.K. last year spent a higher proportion of the defence budget on major new equipment than any other of 11 member countries investigated in a NATO survey.

Two points, however, stand out. The first is the strength of the Government's commitment to NATO and to current plans to strengthen the Alliance's forces. The three per cent increase in spending due in 1979-80, first revealed in January's Public Expenditure White Paper, may not be enough to compensate totally for earlier cuts. But it is in line with the Allied target agreed last year in response to President Carter's call for a strengthening of the West's capabilities and has already been welcomed in Brussels. In view of the Left's traditional sensitivity over defence spending, it would probably be unreasonable to have expected a Labour Government to do much more.

For the years further ahead, the Government has limited itself to the same commitment it made in January. The NATO objective is a 3 per cent spending increase in real terms in each of the five years starting in 1979. So far, however, the U.K. is, of course, true that these forces are not officially integrated into the Alliance's military command. It is equally true that it is virtually impossible to imagine a major East-West confrontation in Europe in which they would not be fighting alongside the Alliance's forces. It may be unwise to try that countries might be allowed to muddle the target if their economies could not stand the strain. But NATO has made it "duplicity."

WESTERN Governments reluctantly are coming to accept that they will not get what they wanted from the 35-nation East-West security conference in Belgrade. With the conference well past its scheduled mid-February end, Mr. Yuri Vorontsov, the chief Soviet procedural arrangements, threatened to walk out of the conference, arguing that the West and particularly the U.S. was interfering grossly in his country's internal affairs.

The West originally came to Belgrade with ambitious hopes.

The aim was, first, to engage the East in a genuine dialogue on the implementation of the 1975 Helsinki Agreement, which set new principles for the conduct of East-West relations, including respect for human rights. The Western tactic was to be firm on Eastern shortcomings on human rights, but not to single them out for exclusive attention. The other major economic, military and political aspects of the Agreement were to be fully examined as well. At the same time, the West was more than ready to allow the aircraft to land. But in general, the rules at airports are still too lax: authorities are still too often unprepared to deal with what has become a relatively frequent occurrence; and the practice of refusing landing permission to hijackers has yet to be turned into a proper international convention.

Such a convention needs to be enforced by a readiness among international airlines, backed by Governments, to withdraw services from airports which are in any way soft on hijacking.

The second general lesson is that there needs to be international machinery to deal with hijacking and the taking of hostages, if prevention has failed. The practice of one country taking the law into its hands and seeking to perform its own rescue act is dangerous—as the Egyptian example has shown. What is needed is an international rescue squad, properly trained and properly equipped for the business of disarming hijackers. That this can be done was demonstrated by the German experience at Mogadishu. The German operation came as close as it was possible to come to an international operation, and it worked.

Crime

It is important, of course, to have the co-operation of the authorities on the ground, as the Germans did. But it would be itself a revealing exercise to see which countries would refuse to subscribe to such a convention. The alternative is an invitation to international lawlessness which would be almost as bad as the crime which it seeks to defeat.

The first sign that the final month or so was going to be rough came on the very day the conference re-opened, when the Soviet Union tabled a short draft concluding document that made not one single concession to either the Western viewpoint or that of the nine neutral and non-aligned countries at the talks. Since then, Moscow has taken a much tougher line than it did during the conference review period.

Western and neutral negotiators complain that the Russians have made their task virtually impossible by insisting that the concluding document must neither repeat the language of the Helsinki Agreement nor go beyond it. The Soviet Union and its Allies have consistently refused to agree to any text that suggests that there have been shortcomings in the implementation of the Helsinki Agreement. In Western eyes, would be to give important new impetus

to East-West co-operation and dente.

Such an approach was bound to put the Soviet Union on the defensive. During the review stage of the conference, from the beginning of October to just before Christmas, Mr. Yuri Vorontsov, the chief Soviet delegation, on several occasions threatened to walk out of the conference, arguing that the West and particularly the U.S. was interfering grossly in his country's internal affairs.

The Soviet Union counter-attacked by launching a series of disarmament proposals, such as the non-use of nuclear weapons, which it knew the West could not accept.

Other East bloc countries drew attention to Western violations of rights such as those of women and racial minorities, and the right to work. But if the Western-tempered dialogue sought by the West never materialised, western delegates at least gained credit for having got away with a comprehensive and fairly public statement of their views on human rights violations before an official Eastern audience for the first time ever.

It is noticeable, however, that people like Mr. Arthur Goldberg, the leader of the U.S. delegation, are increasingly testing the relative success of the first part of the conference even as the second part is collapsing. Dr. David Owen, the British Foreign Secretary, has taken the same line. Both may clearly realise that there is going to be little to show for the work on the concluding document that has occupied the Belgrade negotiators since the conference resumed in mid-January.

Tougher line

The first sign that the final month or so was going to be rough came on the very day the conference re-opened, when the Soviet Union tabled a short draft concluding document that made not one single concession to either the Western viewpoint or that of the nine neutral and non-aligned countries at the talks. Since then, Moscow has taken a much tougher line than it did during the conference review period.

Western and neutral negotiators complain that the Russians have made their task virtually impossible by insisting that the concluding document must neither repeat the language of the Helsinki Agreement nor go beyond it. The Soviet Union and its Allies have consistently refused to agree to any text that suggests that there have been shortcomings in the implementation of the Helsinki Agreement. In Western eyes, would be to give important new impetus



Setting out on a pitfall-strewn path: heads of the U.S. and Soviet delegations, Mr. Arthur Goldberg (left) and Mr. Yuri Vorontsov, chat on the opening day of the security talks last October.

come to admitting that every general election. It was regarded as not rosy in a text as ironic in Belgrade that submitted at the end of last week. The final Russian offer, support for his initiative, in

as it was described by Mr. Vorontsov, suggested that the participants should note with

satisfaction that the process of

debate "has continued sur-

mounting difficulties and obstacles encountered." That is to say, it was not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The polarity of the neutral and Western positions has, if anything, complicated the negotiations.

The neutral and non-aligned countries normally would be ideal go-betweens to negotiate a compromise between the two sides. But their

Officially, Western and neutral delegations have still not given up trying to budge the Soviet Union. But nearly all of them now believe that they will have to go for the second option.

The choice now facing the West is to accept a concluding document so lacking in substance as to be unacceptable to vociferous sections of public opinion, or to abandon altogether the attempt to negotiate a "substantive" agreement.

Officially, Western and neutral delegations have still not given up trying to budge the Soviet Union. But nearly all of them now believe that they will have to go for the second option.

This would mean publication of only a brief communiqué, noting that the meeting had

taken place, established two or

three working groups and agreed to meet again in Madrid in 1980.

A French attempt to produce

a compromise failed to satisfy either side at the end of last

week, with most Western delegations suspecting that the main

aim of the meeting was to present

President Giscard d'Estaing in

a statement of his own, mediating

between East and West on

the eve of next month's crucial

general election. It was regarded as not rosy in a text as ironic in Belgrade that submitted at the end of last week. The final Russian offer, support for his initiative, in

as it was described by Mr. Vorontsov, suggested that the participants should note with

satisfaction that the process of

debate "has continued sur-

mounting difficulties and obstacles encountered." That is to say, it was not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The choice now facing the West is to accept a concluding document so lacking in substance as to be unacceptable to vociferous sections of public opinion, or to abandon altogether the attempt to negotiate a "substantive" agreement.

Officially, Western and neutral delegations have still not given up trying to budge the Soviet Union. But nearly all of them now believe that they will have to go for the second option.

This would mean publication of only a brief communiqué, noting that the meeting had

taken place, established two or

three working groups and agreed to meet again in Madrid in 1980.

A French attempt to produce

a compromise failed to satisfy either side at the end of last

week, with most Western delegations suspecting that the main

aim of the meeting was to present

President Giscard d'Estaing in

a statement of his own, mediating

between East and West on

the eve of next month's crucial

general election. It was regarded as not rosy in a text as ironic in Belgrade that submitted at the end of last week. The final Russian offer, support for his initiative, in

as it was described by Mr. Vorontsov, suggested that the participants should note with

satisfaction that the process of

debate "has continued sur-

mounting difficulties and obstacles encountered." That is to say, it was not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The choice now facing the West is to accept a concluding document so lacking in substance as to be unacceptable to vociferous sections of public opinion, or to abandon altogether the attempt to negotiate a "substantive" agreement.

Officially, Western and neutral delegations have still not given up trying to budge the Soviet Union. But nearly all of them now believe that they will have to go for the second option.

This would mean publication of only a brief communiqué, noting that the meeting had

taken place, established two or

three working groups and agreed to meet again in Madrid in 1980.

A French attempt to produce

a compromise failed to satisfy either side at the end of last

week, with most Western delegations suspecting that the main

aim of the meeting was to present

President Giscard d'Estaing in

a statement of his own, mediating

between East and West on

the eve of next month's crucial

general election. It was regarded as not rosy in a text as ironic in Belgrade that submitted at the end of last week. The final Russian offer, support for his initiative, in

as it was described by Mr. Vorontsov, suggested that the participants should note with

satisfaction that the process of

debate "has continued sur-

mounting difficulties and obstacles encountered." That is to say, it was not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The choice now facing the West is to accept a concluding document so lacking in substance as to be unacceptable to vociferous sections of public opinion, or to abandon altogether the attempt to negotiate a "substantive" agreement.

Officially, Western and neutral delegations have still not given up trying to budge the Soviet Union. But nearly all of them now believe that they will have to go for the second option.

This would mean publication of only a brief communiqué, noting that the meeting had

taken place, established two or

three working groups and agreed to meet again in Madrid in 1980.

A French attempt to produce

a compromise failed to satisfy either side at the end of last

week, with most Western delegations suspecting that the main

aim of the meeting was to present

President Giscard d'Estaing in

a statement of his own, mediating

between East and West on

the eve of next month's crucial

general election. It was regarded as not rosy in a text as ironic in Belgrade that submitted at the end of last week. The final Russian offer, support for his initiative, in

as it was described by Mr. Vorontsov, suggested that the participants should note with

satisfaction that the process of

debate "has continued sur-

mounting difficulties and obstacles encountered." That is to say, it was not good enough for the West or the neutrals, who have taken a very similar line to the NATO countries.

The choice now facing the West is to accept a concluding document so lacking in substance as to be unacceptable to vociferous sections of public opinion, or to abandon altogether the attempt to negotiate a "substantive" agreement.

Officially, Western and neutral delegations have still not given up trying to budge the Soviet Union. But nearly all of them now believe that they will have to go for the second option.

This would mean publication of only a brief communiqué, noting that the meeting had

taken place, established two or

FINANCIAL TIMES SURVEY

Tuesday February 21 1978

THE COMPUTER INDUSTRY

The arrival of the minicomputer as a major force in the computer industry has coincided with a period when serious inroads have been made into the U.S. companies' domination of the market.

ENTIRE of gravity in A number of foreign countries is shifting away from have acted to preserve a measure of independence in general ADL, the international purpose computing, including Japan, Britain, Germany and France, in order of success. But practically all the internal action (with the exception of France) so far has been in medium to large computers. And it is in this sector of the market that growth rates have sagged very hardly while minicomputers, and now the micro-machines, are enjoying growth that can only be described as explosive.

It cannot have escaped notice that 1975 marked the peak in installations of general purpose computers in Britain, and presumably in a number of other manufacturers' share of the market would drop to 1976 more "mainframes" were withdrawn than new ones installed, even though they still overall market expansion represent about 66 per cent by about 10 per cent value of all installations.

This is very largely due to the onslaught of the minicomputer's share to puter either in the guise of a 1981 from \$25bn, at small business machine or a powerful intelligent terminal, as of the European market well as to the strong growth of U.S. companies the service bureaux, row to around \$35bn.

Action

attributed the growing share of the U.S. share of the market to what it in the U.K. and elsewhere of increasingly nationalistic foreign governments. In installations of minis largely bought from the U.S. it seems clear the ADL expects action in market share move this sector by Governments to 1985—which is where after the projected American projections are aimed. Indeed, this action has moment—the foreign. Indeed, this action has already been forthcoming from computer companies fail, the French Government to such 58 per cent and to good effect. 45 per cent of for the U.K. to improve on 27 per cent (about 35 per cent by value).

In Britain at the start of 1977 there were close on 13,000 imported minis in use against mini-driven systems the value 3,800 home-built models. Among the central processor itself the domestic suppliers GEC was now represents only something the market leader with 1,888, between 5 and 10 per cent of Ferranti with 781, total cost. The rest is peripherals, communications equipment and so on.

U.S. companies are well ahead of the U.K.'s best—Digital Equipment Corp with 4,337 1977 for imports of peripherals

Of course that is not the end machine range, there is no in Europe stems from the bitter reason why U.K. companies battle which IBM (principally) sales by 103 per cent to over their unwillingness to continue to grow just as well. is waging against domestic U.S. \$188m, and, more important, to pay the piper without getting the reaction of market range of peripherals to compete against \$22m. It has just shipped European banks recently followed by Ferranti with 781, total cost. The rest is peripherals, communications equipment and so on.

Britain was in deficit to the tune of about £400m, during

1977 for imports of peripherals

But Amdahl in 1977 pushed up airlines, have already expressed reason to IBM's own at lower cost and enhanced its 100th machine—which, it lowed suit with major companies which offered a whole raised profit to \$37m, after tax the tune they want. The biggest IBM equipment—called plug-compatible manufacturer is the general purpose computer. The general opinion is that IBM would not have had mixed fortunes capture more than 15 per cent but, nevertheless, hold large

Dublin soon. Intel has just reported 1977 figures of \$402m, after \$260m, and profit at \$31m, after \$16m. It has sold 100 of its Advanced Systems (AS-5 and AS-4) computers world-wide and installed 55. In Europe, 35 have been sold and 12 installed.

But Intel late last year unveiled the AS/6, which is a Hitachi machine that Intel will sell world-wide, excluding Japan. And this has been designed as a straight replacement for the newly announced IBM 3032 and will be available next month, or one month ahead of a diagnostic service from a specially equipped centre in the U.S. that "plugs in" over telephone lines to any equipment that looks as if it might be giving problems and determines, remotely, what action to take before an engineer goes out. There is little cause for concern. At the same time, the new LSI machines have an unprecedented level of reliability.

Meanwhile, other large machines are coming out of the Hitachi/Fujitsu stables and are being offered under the Hitachi name. These companies have called on the expertise of the big semiconductor component makers to produce high grade solid-state memories (which are also plug-compatible), and have made serious inroads into the established market.

Recently two companies, Amdahl and Intel, have made almost irresistible attractions to offer a product which looks as if it might be giving problems and determines, remotely, what action to take before an engineer goes out. There is little cause for concern. At the same time, the new LSI machines have an unprecedented level of reliability. There are thus several major factors behind the Arthur D. Little projections: Governments' "nationalistic" moves on large machines and minis, perhaps with micros to come; erosion of the larger machine market by the mini; the onslaught of the plug compatible companies on all sectors of the IBM market, with perhaps other companies such as ICL in line for special attention; and last of all, growing consumer resistance.

Challenge to the U.S.

By Ted Schoeters

Banks know whom to trust.

1,400 Olivetti TC800 terminals update a Canadian banking network.

problem progressively update a banking data transmission network that spans continent wider than all of Europe—four thousand miles from coast to coast. In the process, to automate in real time the counter and back-office transactions of most of the bank's more than 1,700 branches.

customer Canadian Imperial Bank of Commerce is one of the world's largest banks with assets in excess of 30 billion dollars. In Canada it has the largest network of branches with representation in all ten provinces and the two northern territories. Several remote communities in the Arctic are served aircraft while a shipboard service is available to communities along the Lawrence river.

solution install intelligent banking terminals at most banking locations. The total order calls for the installation of 1,400 Olivetti TC800's in branches of the provinces of Quebec and British Columbia and in the city of Ottawa, the country's capital.

choice The bank had excellent experience with an earlier generation of Olivetti banking terminals. To integrate into the bank's main on-line network the needs in which these earlier units had been installed and to expand the network to many other branches, the TC800 was chosen because of intelligence and outstanding capabilities in large data processing and transmission networks.

Over 80% of Australia's banking terminals are supplied by Olivetti.

problem To assist Australia's financial institutions in serving the country's fast-expanding economy with flexible and reliable terminal systems for on-line handling of all banking transactions.

customers The biggest savings banks and building societies in Australia, including the Commonwealth Banking Corporation, State Bank of Victoria, Savings Bank of South Australia, State Wide Building Society, Hindmarsh Building Society, United Permanent, Joint Services Network, and others.

solution The new Olivetti TC800 intelligent terminal system. In a country where 80% of the banking terminals already in use were supplied by Olivetti, today's market eagerly welcomes the TC800, reaffirming the success of earlier Olivetti systems. An outstanding example: at the Commonwealth Banking Corporation, which uses one-third of the systems installed in credit institutions throughout Australia, all the terminals were supplied by Olivetti.

choice Olivetti TC800 terminals are being chosen in preference to those of other major manufacturers because they are intelligent enough to function outstandingly on their own, yet can be adapted easily to join any network. The high reliability of Olivetti after-sales service is another important factor in their selection.

3,500 extra Olivetti TC800 systems reinforce banking services in Japan.

problem To achieve real-time automation of counter transactions in savings banks and in banking service departments of agricultural consortia in Japan. Also to administer other services provided by the consortia for their members, such as insurance coverage, the collection and sale of agricultural produce and the purchase of implements for farming co-operatives.

customers Eleven of the most important agricultural consortia (Nokyo) and savings banks in Japan.

solution Olivetti TC800 intelligent terminal systems, which have raised distributed data processing to a new level of efficiency. Over 500 TC800 systems are already operational with these institutions and orders have been placed for an additional 3,500 systems valued at \$ 63 million.

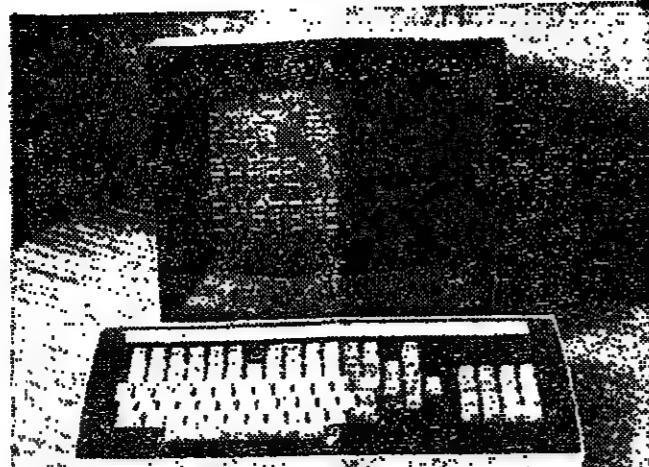
choice The Japanese, who are amongst the world's most knowledgeable experts on electronics and computer technology, were won over by the outstanding capabilities and reliability of Olivetti TC800 terminals. Olivetti systems were chosen in preference to those of major Japanese and world manufacturers, competing in one of the world's most advanced and sophisticated markets.

Companies everywhere are choosing Olivetti systems
Here are the latest world-wide totals: 330,000 accounting machines; 140,000 data processing systems and personal mini-computers; 65,000 terminals and data collection units; 150,000 teleprinters and telecommunications units.

THE INTELLIGENT CHOICE IN DISTRIBUTED PROCESSING

olivetti

FOUR-PHASE SYSTEMS PRESENT VIDEO ORIENTED COMPUTERS FOR



DISTRIBUTED PROCESSING 3270 COMMUNICATIONS STAND ALONE BUSINESS APPLICATIONS KEY-TO-DISK/REMOTE JOB ENTRY

Four-Phase Systems, at the forefront of technology, has studied the problems of modern business and produced a family of video orientated computers to give the data processing manager the maximum flexibility in systems design.

VISION is a distributed processing package for use with Four-Phase clustered display systems. It combines Key-to-Disk, Source Data Entry, On-line Enquiry, Local Data Management, Report and Document Generation and Batch Communications with an optimum balance of local and central processing.

ForeWord is the word processing package

which the data processing manager can now offer his company as a cost effective addition to distributed processing.

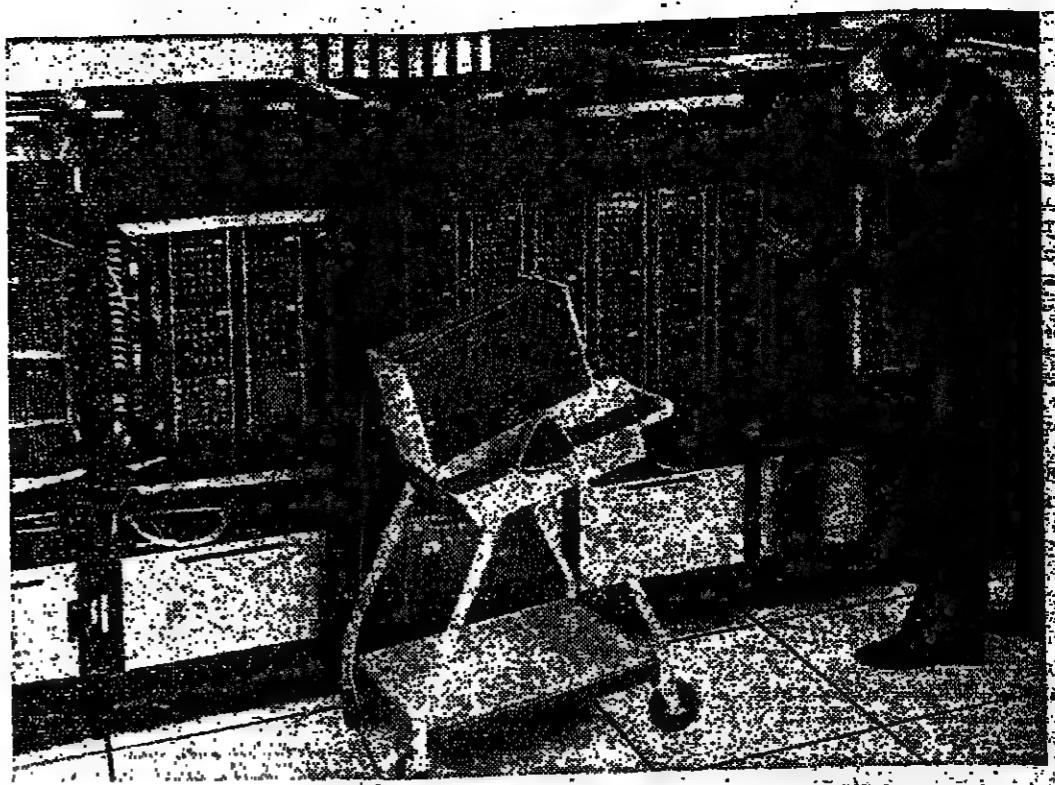
Four-Phase base their products on systems efficiency: The video orientated computers are also cost-effective stand-alone business systems that can be programmed in COBOL.

Thus the data processing manager will find on one machine a combination of products relevant to his needs now and also in the future.

You owe it to your company to check out how Four-Phase technology can benefit you.

Telephone, write or send your business card to:

Brian Lloyd, Four-Phase Systems Limited,
37 High Street, Marlow, Bucks SL7 1AU. Telephone 062 84 71821.



The 470V/5 high speed general purpose computer designed for large scale data processing being tested at Amdahl in California.

If business is a trifle slow, here's how to speed it up

If you have a small to medium-sized company ready to take the next step up the ladder, we can help.

The help is called a Datasaab D15 business computer. As well as making child's play of your general ledger and accounting work, it will also adapt to the special problems of your industry.

As a stock control device D15 is unrivalled.

For as well as working on a real-time basis, we have eliminated product coding and so turned the order entry process into a magically simple affair.

It's compact, too, with no special environment needed - up to 15 workstations can be connected to the mini-computer.

And, because of our policy of helping until

everything is working well, you'll find dealing with us is quite different from the usual sell-it-and-leave-it attitude of many other computer companies.

We are now owned by the Saab-Scania Group and the Swedish State, so you've the assurance of dealing with a really solid company.

And since much of the reputation we have built over the past few years has been based on our systems support and applications knowledge, we are finding that Datasaab customers stay Datasaab customers.

Something few other companies can claim, we suspect.

To find out how a Swedish-made Datasaab D15 could speed up your business, all you need do is fill in the coupon below.



Please rush me full details on the D15.
 Please ask your Representative to call me for an appointment.
Fill in the coupon below.

NAME: _____
POSITION: _____
ORGANISATION: _____
ADDRESS: _____
TELEPHONE: _____

And return to John Medlock, Datasaab Ltd., 10 Gresham Street, London EC2V 7BU Telephone: 01-606 0425

DATASAAB
Part of Scandinavia's foremost technical organisation.

Merger fever

IN RECENT months, Honeywell On this basis, it estimated the Information Systems and its profit of a company the size of French partner CII-Honeywell-Bull have been reviving the talk on turnover. The profit of a about mergers of computer company a quarter the size manufacturers in Europe.

At the same time, Siemens On this basis, it estimated the Information Systems and its profit of a company the size of French partner CII-Honeywell-Bull have been reviving the talk on turnover. The profit of a about mergers of computer company a quarter the size manufacturers in Europe.

International Computers Limited (ICL) in Britain, has, on the other hand, shown no public sign that it is interested in joining any merger, fever at present. It is now in a good period of strong growth and increasing profitability which gives it at least temporary relief from the pressure for mergers in the industry at large.

These pressures arise inevitably from the overwhelming dominance of IBM with over half of the world's computer market, its huge expenditure on research and development being far greater than the CII-Honeywell-Bull analysis suggests is that they have tended to specialised either by geographical area or by product line, it wished to a point which would threaten competitors with extinction.

CII-Honeywell-Bull recently produced an interesting set of figures based on the premise that the minimum research and development budget needed for the data processing market has each general purpose computer continued to expand so rapidly that there has so far been room

Struggle

From this the CII-Honeywell-Bull men argue ICL should consider coming in with the French-American grouping or at any rate consider some partner for the struggle of the 1980s. ICL could justifiably retort that the theoretical analysis has not been borne out in practice, since its profits have been much better than 3 per cent, and show every sign of continuing to be healthy. The data processing division of Siemens, on the other hand has not been profitable in the past few years, though it has shown signs of improvement recently.

One reason that smaller companies have been able to do better than the CII-Honeywell-Bull analysis suggests is that they have tended to specialise either by geographical area or by product line, it wished to a point which would threaten competitors with extinction. They have not therefore had quite the same marketing and service components is likely to lead to a new generation of large computers being developed in the 1980s. This development will take advantage of cheap high performance microprocessors and very large semi-conductor memories, will require a heavy expenditure on research and development both for the hardware and the software.

This protectionism was probably necessary to the ambitions of the three major manufacturers of each country to build up, and is believed to favour the European industry. On further concentration in future, the Fujitsu group that has achieved a respectable size in comparison with IBM. One reason is that the continuing development of miniature components is likely to lead to a secure home base against U.S. opponents industry behind its attack in the world market. Note of these conditions.

This is particularly true applies to Europe where "home market" is divided in which the Americans have already achieved in Europe and Government policies are rowdy nationalistic.

The European Commission represents only 27 per cent of the world's data processing market (estimated at about \$54bn. worldwide in 1978), the problems of upward competition being that is devising methods by which old software can be run on new machines without highly expensive conversion into a new code.

When this happens, it may be that the barriers between different machine systems which at present separate companies may seem less formidable. New groupings could then emerge more easily.

One obvious grouping, which has been much discussed over the years in Brussels would be a pan-European computer company consisting perhaps of ICL and the data processing divisions of Philips and Siemens. The possibility of French cooperation has become much less likely since CII withdrew from the European Unidata in 1975-76 and threw its lot with Bull and Honeywell Information Systems. The collapse of Unidata, formed out of CII-Bull, Siemens and Philips has, indeed, given even the most enthusiastic pro-European cause for thought.

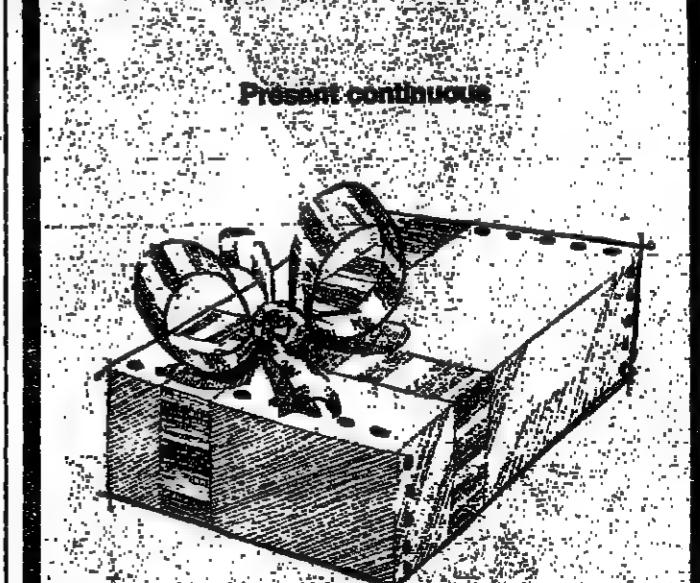
In any case Siemens has been developing large IBM-like machines whose systems differ markedly from those of the new ICL range. A more natural grouping might be for Siemens to throw in its lot with Fujitsu which has also developed IBM-compatible machines.

Links
Siemens has long-standing links with Fujitsu and its recent talks have probably been on the subject of exchanges of research information and on software development.

If a formal tie-up were agreed, ICL would certainly be left in an exposed position. It might then be forced to look for a U.S. partner as CII-Bull did, perhaps National Cash Registers. Or it could accept Honeywell's apparently standing invitation to join the club.

Such a re-grouping would, however, leave Europe without any independent large general purpose computer company, since Philips is now concentrating on small systems. It would be a very different result from that which the main European governments have been trying to achieve through massive subsidies and protectionist procurement policies.

In France, Germany and in the U.K. it has been taken as axiomatic that a strong independent computer company is a strategic necessity, strategic in an industrial sense, but in the long term also from a military point of view. Each country has poured subsidies into mainframe companies, which have all been through periods of difficulty and loss-making. At the same time the governments, as one of the major purchasers of computers have either tacitly, or as in the U.K., explicitly followed policy of purchasing from their national company. The main effect of these procurement policies has been anti-American, or more particularly anti-IBM, since it was considered impossible for fledgling companies to thrive unless the great American eagle was fenced out.



Our continuous linkage software extends your computer output. Adds to the total efficiency of your computer operator with specially designed to your specific needs.

Multisets Limited
The total service to the Computer Industry
234/248 Old Street London EC1V 9DD
01-253 8842
and at 14b Athene Avenue,
Elgin Industrial Estate Swindon Wiltshire SN2 6QF
0793 694448

Market Data for the Computer Industry

Write to:

INTERNATIONAL DATA CORPORATION

IDC EUROPA Ltd.

2 BATH ROAD

LONDON W4 1LN

for information... before you need to know
Research/Analysis/Reports/Statistics/Newsletters

LOOKING FOR THE COMPUTER PROFESSIONALS WHO REALLY MATTER?

Maybe you're looking for the decision-makers who specify computer equipment and services.

Maybe you want to recruit experienced DP managers, analysts or programmers.

Whichever, they share one common factor: Computer Weekly, the one computer newspaper that is personally requested by no fewer than 74,329 computer professionals in Britain.

Its editorial span covers the whole computer community.

It's expert, enquiring, entertaining—and it really does get read.

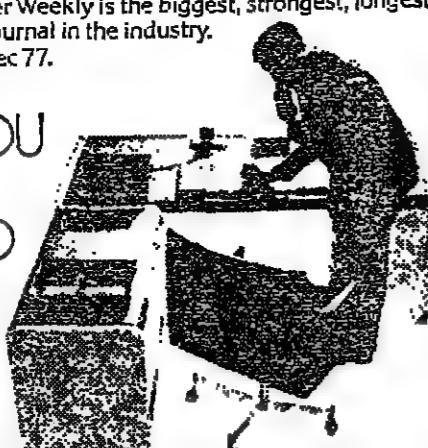
Which is why we carry more display advertising, for more clients, than any other computer publication in the country.

At the most cost-effective ad. rate in the business.

Computer Weekly is the biggest, strongest, longest-established journal in the industry.

*ABC July-Dec 77.

ALL YOU HAVE TO DO IS ASK IN

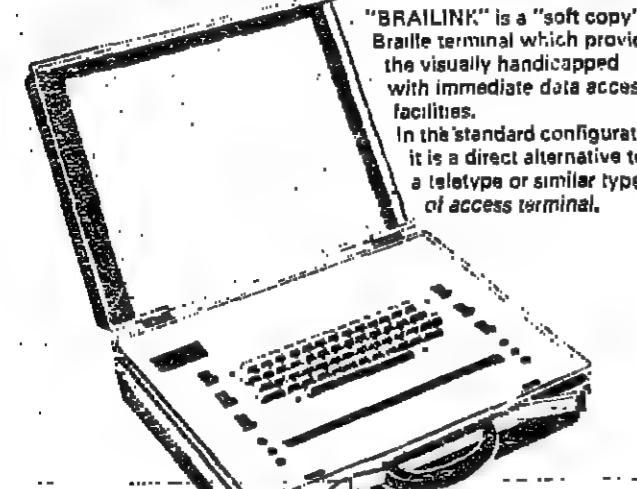


COMPUTER WEEKLY

For display advertisers, Harry Hutson is waiting for your call on 01-261 3359 8503. He'll be pleased to advise on forthcoming editorial features and supplements especially relevant to your products. For recruitment please contact Mike White on 01-261 8028 8658.

BRAILINK

A Braille Computer Terminal for the visually handicapped



CLARKE & SMITH INTERNATIONAL LTD,
WALLINGTON, SURREY, ENGLAND, TEL: 01-669 4411
TELEX: CASINTG 22574 TELEGRAM: ELECTRONIC WALLINGTON

IBM SOFTWARE

5110 New powerful office computer
System 32 Compact batch processing computer for the expanding company

System 34 Multiprogrammable screen based system for on line applications

The above represents the hardware

MPL Computers provide the software

Standard packages for most accounting functions. Special systems for Practising Accountants and Solicitors.

MPL COMPUTERS LTD.
Kingsditch Lane, Cheltenham
Contact: JOHN BAYSTON 0242-37636

Computerised Management Systems for DENTISTRY, MEDICINE & HOSPITALS

Enquiries to the specialists in the medical and para-medical fields;
Dentron Computers Ltd, 22 Harley Street, London W1 Tel: 01-637 0494

THE COMPUTER INDUSTRY IV

Security and privacy

THE VAST and increasing individual's personal and financial who originally collected the up or infringement can dog its stores of data which now cover history. The possibilities for statistics. The resident being perpetrator through the years almost every aspect of personal bureaucratic abuse could then be endless. Even blackmail lengthening the judgment because business life can be the subject of a whole series of could result if officials he does not know he is being abuses and accidents which are to discover unsavoury de-judged. Even when the final tales of a citizen's financial decision to demolish his house medical or matrimonial history, or street has been made, it may concern.

Efforts to protect data fall is it desirable, for example, that it is impossible for a resident to roughly into two related categories: those concerned with a traffic offense could find his whole personal history and those of Security. The hazards range from a portable terminal in the dental loss or damage to computer car? Such a development manipulation or use of data for it may even be considered criminal gain or undesirable likely.

The dangers have often been compared with George Orwell's 1984, and it is a comparison

overlapping. For example, which is by no means too far fetched. There can be little doubt that computers are already used for reproductive purposes in the Soviet bloc. However, it is probably true that those who use computers of wholesale abuse must lie in to handle personal information, however responsible they are, in an elaborate series of rules of computing procedures.

A greater danger in the West is probably the "well meaning" abuse of data banks by bureaucrats. For almost any infringement of liberty can, in a particular instance, be justified in the name of efficiency. Take, for example, the example of a town planning department which

wanted to draw up a profile of the residents in different areas.

Information from the social services, rating and education departments might all be collected from different data banks, with perhaps indexes of deprivation and estimates of income.

The computer might then be asked to calculate on various criteria which houses need to be knocked down.

The computer might even be asked to print out details of individual residents in a certain block due to demolition. The

referring the files and the danger of this is partly that human judgments can be essentially

make possible.

Unless safeguards are built into the systems, it could be

possible for a local police

or tax inspector to obtain

a complete print-out of an individual's social worker do so. As a result a minor slip

Scrutiny

This point was recognised explicitly in the 1975 White Paper on Computers and Privacy which said: "The time has come when those who use computers

the safeguards against this type

of wholesale abuse must lie in to handle personal information, however responsible they are, in an elaborate series of rules of computing procedures.

A greater danger in the West is probably the "well meaning"

abuse of data banks by bureaucrats. For almost any infringement

of liberty can, in a particular instance, be justified in the name of efficiency. Take, for example, the example of a town planning department which

wanted to draw up a profile of the residents in different areas.

Information from the social services, rating and education departments might all be collected from different data banks, with perhaps indexes of deprivation and estimates of income.

The computer might then be asked to calculate on various criteria which houses need to be knocked down.

The computer might even be asked to print out details of individual residents in a certain block due to demolition. The

referring the files and the danger of this is partly that human judgments can be essentially

make possible.

Unless safeguards are built into the systems, it could be

possible for a local police

or tax inspector to obtain

a complete print-out of an individual's social worker do so. As a result a minor slip

A variety of security measures is commonly used to prevent the wrong people getting into the computer room or removing files. Special passes, keywords, codes and the physical presence of security men are all used. However, the growing move towards distributed processing and remote terminals means that physical security measures are not always adequate. Safeguards must be included in the programs themselves to ensure that only authorised people can gain access to data. It is relatively easy to arrange codes which will defeat a non-skilled operator.

The problem of outwitting a criminal programmer is much harder, however. And attention

has recently been turned to

providing operating systems

which prevent programmers

gaining access to data or to programs unless they are specifically authorised to do so.

On the other hand all security

measures, particularly those

which are integral with software, inevitably have a cost

penalty. Some security measures

which have been proposed

would enormously increase

costs (and inconvenience) in

large data processing installations.

Future discussion therefore

needs to strike a realistic

balance between what may in

theory be desirable and what

companies and Government

centres can be expected to

afford.

M.W.

Computers-Have confidence in us.

Owning a computer and the development, implementation and maintenance of computer systems is a costly business.

A bureau service is the answer.

The National Data Processing Service is the commercial arm of Post Office computing.

A bureau that provides access to the resources

of one of the largest computer users in the UK.

Companies seeking computer capability can

have confidence in services provided by

professionals with twenty years experience.

We can work with you or for you. On a

nationwide scale. Or as a local operation. You

name it. We'll do it. Cheaper than you think.

Get our computer on your side—phone

01-432 9258.

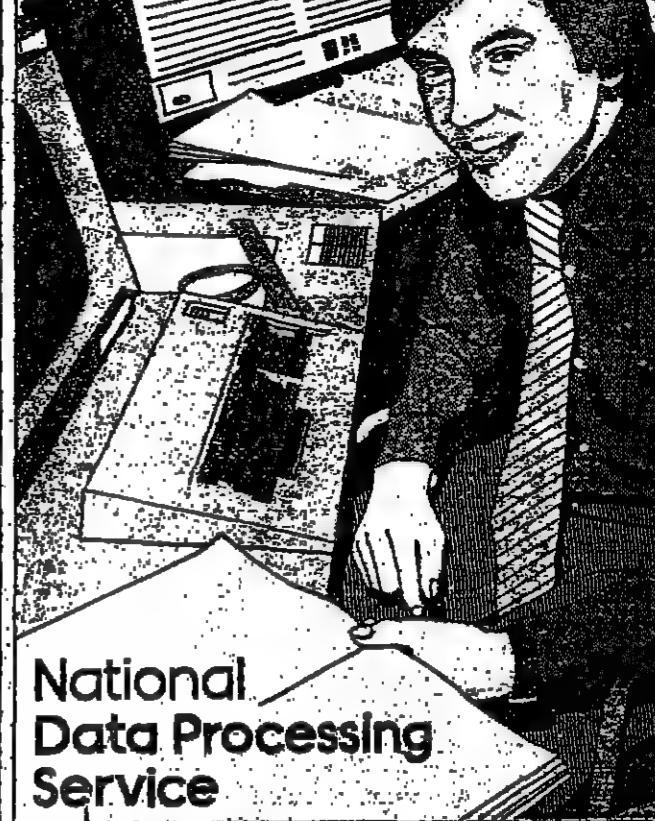
Sales Manager

National Data Processing Service

Tenter House, 45 Moorfields

London EC2Y 9TH

Telephone: 01-432 9258.



Power of the micro

THAT THE equivalent of a \$100,000 computer of ten years ago has been reduced to about the size of a capital O on this page at a cost of \$10 to \$20 million is wonderful enough. The proposal that the same process will be repeated in the next decade is almost frightening.

Micro-computers a few millimetres square already exist with the capability of controlling an installation worth some £250,000. As the price continues to fall and performance increases, such microprocessors will find their way into more and more applications, often replacing the traditional mainframe computer.

Although microprocessors have been available since 1972 when Intel marketed the first production chip, it is only in the last 18 months that a complete "computer on a thumbnail" including a relatively long "word" length and memory store has become available. Although the most sophisticated microprocessors are relatively expensive, the simpler versions suitable for process control or small business and domestic machines are falling in price to only £1 or £2.

Some of the more enthusiastic predictions about the effects of microprocessors sound like science fiction, but the capabilities of this device are potentially so great that they are limited only by the imagination of engineers.

In one crucial respect, microprocessors and other miniature circuits are unlike almost all other electronic components. In the connections are implanted on the wafer. Because of the very small size of each circuit

This is because integrated circuit production is highly automated and the basic raw material—wafers of silicon—is cheap.

The microprocessor is made

from a very large-scale drawing

in

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

on the wafer. The silicon is then bombarded with impurities in an oven in such a way

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

on the wafer. The silicon is then bombarded with impurities in an oven in such a way

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

on the wafer. The silicon is then bombarded with impurities in an oven in such a way

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

on the wafer. The silicon is then bombarded with impurities in an oven in such a way

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

on the wafer. The silicon is then bombarded with impurities in an oven in such a way

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

on the wafer. The silicon is then bombarded with impurities in an oven in such a way

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

on the wafer. The silicon is then bombarded with impurities in an oven in such a way

that the impurities fuse into the

silicon and form a pattern of

transistors exactly corresponding to the original circuit diagram. The process is repeated with several masks and different impurities until all the different parts of the circuit, including

the connections are implanted

</div

THE COMPUTER INDUSTRY V

French on the attack

RELY BEFORE Christmas favourable balance of trade of base of 41,700 in Europe 6,240 most recent of a number of £200m. by 1980, in terms of machines of the general purpose class will be added in 1978. This would mean moving from a negative balance 7,080 in 1978 (13 per cent. up) of say £200m. in 1977 to the 8,020 in 1980 (14 per cent.) and above figure in three years, on 9,120 in 1981 (14 per cent. a swing of £400m. on a U.K. allowing for withdrawals the turnover rising from about 1981 base would be £3,000 machines.

was the Computer Sector Party, reporting to the on what should be done.

an industry which has a turnover of well over £500m. a work force of 48,000 to

must be added the £250m. from the services industry employment is around

prime consideration of the WP report was the con- ing deterioration in the rate of payments situation computers with 1976 return- 14m. in the red and 1977 by near £200m. But the fact also underlined the fact that the hardware industry was

indicated other than by saying recommendations on Government procurement policy should aim at substituting imports and stimulating exports. Also major non-U.K. multinationals should be encouraged to invest in the U.K. and in particular should sustain industry employment levels and contribute towards the reversal of the current substantial balance of payments deficit.

Two further points of con- sideration of this kind that emerged from the GWP report—that members were concerned at the lack of an adequate U.K. base in advanced components and at the length of time between invention and exploitation, particularly of defence equipment with a business potential.

There seems to be here no formula that will, by the end of the decade, stop the drain of currency on imported products that could be made in the U.K. let alone reverse the trend which has been downhill since the beginning of the 1970s with the exception of one year.

It would be scant courtesy indeed not to say how well ICL has done in the past few years, against all the odds and the entrenched might of the big U.K. companies with their massive home market protected by policy walls and far more difficult to scale than any tariff barrier. But one company with 5 per cent. of the world market and 9.8 per cent. of the European market cannot be expected to work the NEDO miracle however much procurement protection is accorded it.

One valuable statistic here is from P.M. Computers and Telecommunications (Pactel) which shows shipment values for minicomputers, small business systems and terminals in Europe roughly equal to shipments of mainframe computers in 1977.

Working Party, established to achieve a

manufacture, software, teleprocessing and peripherals and providing growth support.

They set themselves the ambitious target of achieving an 80 per cent. indigenous supply to the corresponding domestic market by 1980.

The equivalent of the Department of Industry started negotiations in mid-1975 with several groups on the basis of the now well-known growth contracts "contrats de croissance." This provides aid to healthy companies under the proviso that they grow at 30 per cent. a year and export 30 per cent. of their product.

SEMS was one of the first set up under the Thomson-CSF wing and comprising the mini interests of CII and Telemechanique. It has been particularly successful since in the 1976/1977 financial year it reached a turnover of Frs. 1.4bn. or about the same as that of CII Honeywell Bull.

The last two of the seven groups have recently signed the appropriate undertakings with the French Government and if all do as well as SEMS, albeit under a Government purchasing umbrella, the 80 per cent. target could be reached before 1980.

What it will cost the French

exchequer is a complex calculation. But it cannot be much in the U.S.

more than £100m. for the whole five-year programme of support and this will be recouped very quickly through improved returns from the beneficiaries

in the peri-informatics section of

any note has been made and Germany has also put a great deal of money into computing while Japan is pumping vast amounts of money into advanced circuit design but also latest figures indicate that Siemens has a 4.60 per cent. value by the European market which is not a particularly brilliant result when it is remembered that support has been

channelled into the German

industry at a rate between

five and ten times as much as in U.S. controlled computer

builders hold nearly 85 per

cent. of the market for large-

scale computers, where the

commission has given up the

fight.

The message is very clear. If

putters, the lightening of the European countries do not take

burden it would otherwise have a leaf out of the French book

had to bear without Govern-

ment backing has allowed it to

set up an important component

manufacturing industry making

"new wave" in the computer

industries. Since this represents

large-scale CMOS circuits as the

European leader. At the same

time, ICL is just putting the

finishing touches to its own LSI

plant which is just being shown

to the world's Press while

Honeywell has just acquired

the "semi-intelligent" devices.

It is, indeed, far from inconceivable

that many homes should soon be

equipped with their own com-

puter for domestic filing and

accounting, games, educational

use and for hobbyist applica-

tions.

In the U.S. last year it is

estimated some 50,000 home

computers were sold. There are

now 1,000 computer stores and

about 500 home computer clubs.

A complete computer can now

be bought for £200, and kits

which add on to the domestic

television, for as little as £400.

Although the microprocessor

will be more obvious in its

domestic applications, the pro-

founder effects will appear in

factories and offices where more

and more functions can be auto-

matized at comparatively low

cost. The great advantage over

mini-computers, which they

are already replacing, is that micro-

processors are extremely port-

able. Each micro can therefore

be housed within a machine

which it is dedicated to control.

Such engineers are increasingly

finding that their skills in

designing electronic circuits or

mechanisms are becoming

redundant. The program is

taking over.

One reason is that the simpler

microprocessors suitable for

such control must be programmed

so rapidly that it is estimated

the spread of microprocessors

in machine language, which

specifies every single movement

of electrons in the device. Since

electric motor, with an average

programmer can of perhaps five to eight per

home by the end of the 1980s.

In the past, minicomputers

have tended to be used to

control a range of machines or cookers, central heating and processes, which has meant extra costs for communications and multi-programming. The mass-produced micro, however, can be slotted into each individual machine. The effect in factories is certain to be a much more widespread and flexible application of automatic control. In offices automatic and editing typewriters and "intelligent" copiers are likely to gain wider acceptance. The advantages of replicating paper records with magnetic files will also become generally evident.

Meanwhile the more sophisticated microprocessors now becoming available are beginning to have a major impact on design in the converging fields of telecommunications and computing itself.

Testing

In telecommunications, micros will be distributed liberally throughout the exchange network to control switching, charging and many other functions. The ability to duplicate low cost processors can greatly ease the problems of programmers who no longer have to write complicated routines to economise on computing power. In data processing the power of the micro has made the idea of distributed intelligence much more attractive. As computing tasks become devolved to a federal system of processors, the emphasis on communications between all the satellites is sure to increase.

Even in the heart of the very largest mainframe computers, the micro is beginning to have a place, in some applications like weather forecasting, it may be advantageous to distribute processors throughout the data stores. These processors would all act in parallel, performing the same operation on different parts of the data. Such "parallel processors" still in the experimental stage, represent a radical departure from the present computers, which operate on the data in a sequential or "serial" fashion.

In principle at least, parallel processors using very large numbers of micros offer the possibility of enormously increased computing power in many applications.

In a whole range of industries, therefore, the power of the micro is as yet only dimly understood, but everywhere manufacturers will ignore it at their peril.

M.W.

Micro CONTINUED FROM PREVIOUS PAGE

or "chip," a large number can be manufactured simultaneously on each slice of silicon (usually about 4 inches in diameter).

After processing, the slice is cut into tiny squares, each one a complete circuit.

Because of the heavy develop-

ment cost for each chip manu-

facturers have every incentive

to try to standardise designs and to achieve mass sales of each

component where possible. It

was this need which fathered

the microprocessor, a general

purpose computing circuit which

can be programmed to many

different applications. Because

of the need for high production

volumes, many manufacturers

have orientated their designs to

appropriate companies in mini-

business consumer markets.

However, by its nature the instructions per hour, including development of applications to time-consuming.

the programmer. Programs can

be written which replace almost

any electrical or mechanical

control function, like a washing

machine timer or the carbura-

tion of a motor car, but the

programming is often extremely

difficult.

Suitable

One reason is that the simpler

microprocessors suitable for

such control must be programmed

so rapidly that it is estimated

the spread of microprocessors

in machine language, which

they will soon be as com-

mon in the home as the ordinary

of electrons in the device. Since

electric motor, with an average

programmer can of perhaps five to eight per

home by the end of the 1980s.

In the past, minicomputers

have tended to be used to

control the process, ready to use, fully indexed information on microfiche.

And that is by no means the end of AutoCOM's potential.

AutoCOM has the flexibility to be the mini-computer controlled heart of totally integrated information generating and handling systems. It can operate in conjunction with the widest range of peripheral devices and is fully compatible with Dataphix.

AutoCOM is the latest development from Dataphix. COM's originators and world market leaders. With AutoCOM and System 4500 they are uniquely able to ensure that the COM equipment suits the system and achieves the maximum benefit.

Ask Dataphix for a copy of their reports on COM in use and on systems that can be instantly operational at the lowest cost.

These organisations have proved that in-house Dataphix COM is an investment with worthwhile returns.

Commonwealth : Atomic Weapons Research Establishment : Bank of Ireland : British Rail Order Co. : Brook Bond Tea Co. : Chase Manhattan Bank

Board of Trade : Dept. of Health & Social Security : Dept. of National Savings : Driver & Vehicle Licensing Centre : EEC : Financial Data Services : Ford Motor Co.

House of Commons : Inland Revenue : Post Office : Royal Bank of Scotland : National Westminster Bank : National : Norwich Union

Overseas Commissions : Post Office : Royal Air Force : Royal Army Ordnance Corps : Scottish Corporation Services : S.E.N.C.R

CALCOMP

The first name in computer graphics...

[on or off-line drum and flatbed pen plotters; electrostatic plotter/printers; digitizers; interactive graphics systems; application software]

and OEM computer memory systems.

[removable pack disk drives; one or two headed and single or double density floppy drives; mag. tape units; formatters; complete memory sub-systems]

CALCOMP

CalComp Ltd.

Cory House, The Ring,
Bracknell, Berkshire.

Tel: [0344] 50211

THE COMPUTER INDUSTRY VI

Printouts on the decline



The Honeywell page printing system with an operator inserting a printing cylinder.

BIG COMPUTERS are still very expensive — a fact often overlooked by those who are now thinking. "But of course, you can now buy a computer for a few hundred pounds which can do the same work as a room full of valves costing millions of pounds a decade ago."

Not only are big computers expensive, they are much more powerful than the old big computers, and they usually have to do more work. The operating systems of today's computers allow you to sit down comfortably at an interactive terminal and treat the whole computer as if it were your own.

Paradoxically, they still line up their information at a line printer, and dump it out, 1,200 lines each second. Even worse, when you find somebody with a smaller computer, you find that he has adapted his whole way of thinking — to the point of having it line up its information and dump it to a slower printer, 300 lines each second. And the final absurdity is to find a man sitting beside one of these microcomputers which you can get for a few hundred pounds, and watching it line up its data and output onto a piece of paper at one character each tenth of a second. The problem is in the paper.

I like to quote a former instructor on system design at ICL, who fought a despairing battle against the line printer. He would ask his students: "What are the essential functions served by paper in the output of a computer room — apart from the obvious essential functions of the staff during the process of digestion?" — and he found that as the group worked its way through the various applications, they found more and more data that need to be held in the computer, rather than on paper.

Application

The only application where they felt paper output was essential was the payslip. Almost without exception, they felt that for the machine to merely transfer funds to their bank would not be satisfactory, even if it were, they didn't like the idea of anybody being able to interrogate a video terminal for their salary data.

Our human desire for something tangible in the hand is not the only factor preserving the huge wad of print-out, but a great many apparent objections to doing away with paper archives are just rationalisations of this desire — and the security question is certainly one of these.

For example, when Honeywell invited a few guests to the opening of its super-centre in Amstelveen, near Amsterdam last year — the super-centre being a concentration of computer power within the General Electric Mark III network — it was made clear that this was the only day that anybody other than operating staff would be allowed inside the building, so stringent was security. Even a U.S. Congressman who had offered considerable business if he could personally check out the security arrangements was told that he and his business would have to stay outside.

And the security arrangements were almost frightening: not only the passwords and the need for absolute positive identification before staff could get in, not only the multitude of closed circuit TV apparatus, not only the bullet-proof windows and the single door entry to the building, but also features such as all tapes being duplicated in another secure building miles away with interconnecting locks. And, said the centre staff, there were two full-time security dodgers — consultants who spent their time trying to find a way of accessing files on somebody else's program, to detect loopholes.

My suggestion for breaking security was to tap the telephone connection between the client and the computer centre and record all data traffic, thus getting the password and all the data.

"Well yes," said a senior executive, "we can't guarantee security outside our own premises, and that would work quite well. But we have found that many times, people who insist on the fullest security protection, passwords, daily changing codes and so on, will subsequently run their program, ask for a print-out of results at their local terminal, and then go home leaving the paper on the top of their desk for the cleaner to see."

The most damning thing about printout is that it largely negates the power of the modern computer — to access any item of data in milliseconds. A typical job printout — apart from payroll which we will always have with us — produces its biggest headaches in the head of the man who wants other people to read it. All too often, they can't be bothered.

"We've produced a fantastic spare parts stock control system," a motor dealer explains, "which not only shows us immediately when any parts are below a comfortable warehouse level, but can show us the number of times this happens in a quarter — so then we can arrange a higher warehouse level, if the parts are ordered too often, or lower, if too seldom."

Unfortunately, this information was included in a printout the size of the average family Bible — and he was just coming round to the realisation that, after six months of futile shouting at subordinates, he really needed a computer to do the job of reading through the results.

The amount of data was trivial by disc storage standards, and in his case, the only factor preventing his having all the information available to whoever needed it just by going to a terminal, was the fact that he'd invested more in a printer than he was prepared to see scrapped. Even more significant in terms of resistance to change, say the printer makers, is the cost of the paper. Not the raw material, but the design of the forms.

A printer-minded world is currently putting pressure on its suppliers to bring the costs of making marks on paper, in line with the drop in the costs of computing — and this cannot be done, because mechanical engineering is an advanced art capable of small improvement compared with the quantum jumps made each year in electronics technology. To justify the vast research and development costs of even a simple mechanical printer requires guaranteed sales of several millions of pounds.

Unfortunately, the methods of bringing the selling costs down — apart from the fact that they require sales of a great many more units to recoup the same

profit — seem to be tied to using non-standard stationery.

For example, U.S. aerospace conglomerate SCI Systems, hit upon the revolutionary idea of printing on paper which was bent into a tube — like printing on the inside of a toilet roll — so that the print head could be kept in constant motion, rather than reciprocating from left to right and shaking itself to bits.

A device was developed which produced 2,200 characters per second. Unfortunately, it uses electro-arc welding matrix needles to form the characters on special (cheap, but special) silvered paper, not standard stationery.

Dataproducts, possibly the largest maker of line printers, claims that the multi-million dollar market for printers is outweighed by a factor of four by the stationery market. If the world could persuade itself to have very fast, cheap printers like this rotary device, it could then do all its work in front of the computer using a video display, until it found the item it was looking for — a part number, an address, a letter to the Editor, or a phone number — and then print that out in two seconds.

It would be too easy to assume that with cheap computers, the big printer would fade out, but the evidence is that it will not. It will cease to be the prime method of retrieving data out of a computer.

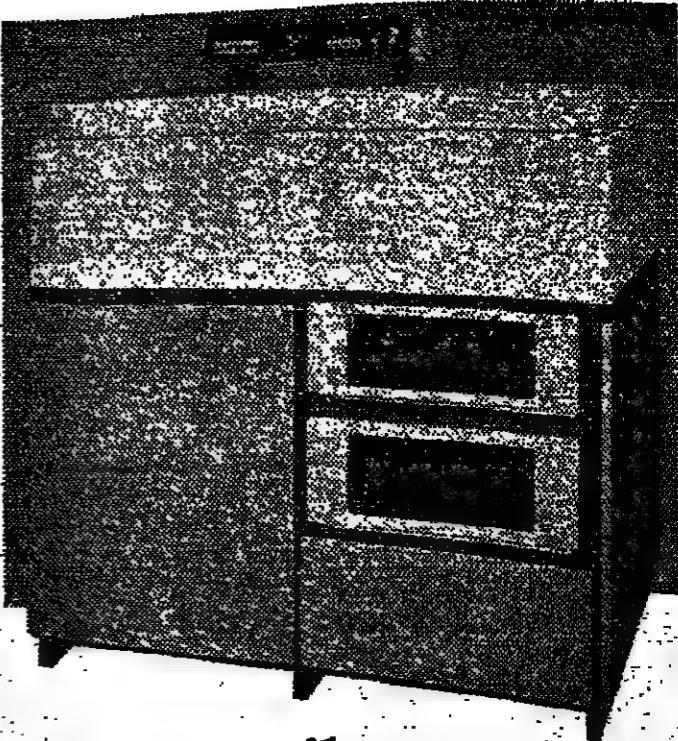
But at the same time, that quick look round the office will show several things which a big printer just has to do, with the only proviso, that a gradual improvement in the quality of the print is called for.

Documents which need to be carried will have to be printed — the driving licence is a prime example. Information held in other people's computers will have to be printed out for us, because whatever happens to technology, a permanent phone link, available at the drop of a hat, to Germany, will cost more than an occasional print-out.

And the "window on the computer" is a device with its own very special disadvantages: unlike a piece of paper, it can turn itself off, it flickers, it is said to cause eyestrain, it might even produce radiation hazards.

But it, or a new technology version of the video screen, will win. After all, motor cars have caught on quite remarkably, despite being expensive, needing driving tuition, costing a lot in maintenance, and being dangerous as well as emitting poisonous gas — because they are convenient.

Guy Kewney



The best silent partner in business

When you invite a Systime mini computer based business system to join you, you're beginning a rewarding partnership.

Your new partner handles everyday tasks with ease, and can provide such a wide range of up to date information that your decision making was never so accurate. Your new partner can handle sales and purchase accounting, payroll, stock and production control, as well as many other specialised tasks. Not just calculating but printing invoices, statements or purchase orders.

And its information is so accessible that a number of people can get instant answers at the same time, just by punching a few buttons.

Systime install the equipment, provide all the forms, train your staff (about a day's job) and keep everything in perfect condition.

As your business grows, so your system can grow too. Because with Systime you do get flexibility.

And you don't get growing pains.

So whatever your size or field of endeavour, contact Systime and let's talk about a partnership.

SYSTIME

REAL-TIME COMPUTER SYSTEMS

Systime Limited, Concourse Computer Centre, 433 Dewsbury Road, Leeds LS11 1DP, Telephone Leeds (0532) 707411.

You know about Computers - we know about Property

Gooch & Wagstaff

Chartered Surveyors
9/12 King Street
London EC2V 5ET
Telephone 01-800 1792
Telex 8811824

Offices also in Frankfurt and Amsterdam

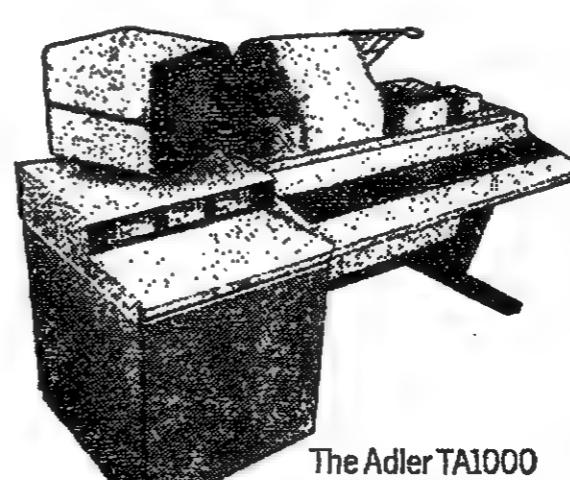


We would like to send you a brochure about our Specialist service to the Computer Industry.

EASY-TO-USE COMPUTER SYSTEMS

Talk to Mike Hare of Doric for an imaginative approach to systems design.

DORIC COMPUTER SYSTEMS
26 Woodford Road, Watford, Herts, WD1 1PP, Herts.
Tel: Watford 48788



The Adler TA1000



The Adler TA20

the system is right in every detail — from our own sales offices and national network of dealers.

Finally, the factor that enables Adler to carry through this concept is the new Adler range from £4,000 to £35,000. Which means that the system can be tailored very precisely to your needs.

The smallest, the Adler TA20 will take on a complete accounting job for the smaller company or a specific application for a large one.

At the top end is the TA1000 with increased power and the ability to provide really impressive management data, run your accounts department and help you run your business.

Adler Business Systems Ltd

A GREAT RANGE OF ANSWERS

Adler Business Systems Ltd
Jordan House, 47 Brunswick Place
London NW1 6EG Tel: 01-251 2712

Please send me full information on the new range of Adler small business computers.

Name _____

Company _____

Address _____

Tel _____

SWIFT THINKING

If you are interested in getting a greater return on investment from your communications centre, please read on...

"Automation of Words" via CompuScan and its OCR (Optical Character Recognition) page readers offer substantial cost savings, speed, and reliability to any data entry system...

In other words... CompuScan equipment insures a greater Return-On-Investment. With the elimination and verification of re-keying, it is possible to reduce the overall costs by more than 50%, while getting better than a 75% Return-On-Investment during the first year of operation. CompuScan's OCR technology is the result of more than 8 years of OCR leadership and continuous development by CompuScan, Inc.

For more information about CompuScan Inc. or any of its products or services, write or tele-

Park Road, Frome, Somerset BA11 1ET.
Tel: 0373 67330 Telex: 44717

We won't sell you a £35,000 computer when we can sell you a £4,000 system.

THE COMPUTER INDUSTRY VIII

Government hand on software

THE GOVERNMENT'S decision in the autumn of 1976 to set up a company to market British software abroad was the result of some very anxious discussions about the U.K.'s weakness over large areas of the data processing market.

The establishment of International Computers Limited (ICL) and the development of its new range of machines with Government assistance may have diverted Government attention from what was happening in other parts of the data processing market. Small business machines, mini-computers, and later microprocessors started to be imported in large volume. British manufacturers had failed to get much of a stake in these large and growing markets, and by the time the alarm was raised, it was generally considered too late to make a counter thrust against American dominance.

On the other hand, the rapidly developing integrated circuit industry was causing a sharp fall in hardware prices. This fall seems set to continue for at least the next ten years, as production of components becomes more automated and more and more elements are fitted on to a single chip.

On the other hand the cost of programming is becoming relatively more and more expensive. In spite of some advances in technique it is highly labour intensive, and will remain so. Moreover, as computers become at the same time more powerful and cheaper, increasing pressure is put on the programmers to devise adequate operating systems and to develop software for the new applications which are being opened up for data processing. The development of the microprocessor has also thrown up a whole new range of programming problems.

Already the cost of software is approaching half the cost of hardware in many applications. And software happens to be an area in which British expertise is strong, and, compared with the U.S., cheap. Taking an average for the whole of the data processing revenue, software now accounts for about a third.

It was against this background that the National Enterprise Board started to take an interest in the software industry as, so a maximum of 29m. of equity

to speak, a counterbalance to the Government's support for ICL. Already the French, German and Japanese governments had given substantial support to their software industries, but in the U.K. in 1976 there had been no intervening at all except for the support for ICL.

In the U.K. there were some 500 companies, most of them fairly small, producing software packages, maintaining programs and in some cases marketing equipment on a turnkey basis.

The industry was in a flourishing state, largely because of the upward trend of the data processing market. Small business machines, mini-computers, and later microprocessors started to be imported in large volume. British manufacturers had failed to get much of a stake in these large and growing markets, and by the time the alarm was raised, it was generally considered too late to make a counter thrust against American dominance.

On the other hand, the rapidly developing integrated circuit industry was causing a sharp fall in hardware prices. This fall seems set to continue for at least the next ten years, as production of components becomes more automated and more and more elements are fitted on to a single chip.

On the other hand the cost of programming is becoming relatively more and more expensive. In spite of some advances in technique it is highly labour intensive, and will remain so. Moreover, as computers become at the same time more powerful and cheaper, increasing pressure is put on the programmers to devise adequate operating systems and to develop software for the new applications which are being opened up for data processing. The development of the microprocessor has also thrown up a whole new range of programming problems.

Already the cost of software is approaching half the cost of hardware in many applications. And software happens to be an area in which British expertise is strong, and, compared with the U.S., cheap. Taking an average for the whole of the data processing revenue, software now accounts for about a third.

It was against this background that the National Enterprise Board started to take an interest in the software industry as, so a maximum of 29m. of equity

to capital—perhaps to be increased up to £20m.—envisioned during its first five years.

INSAC has now established

itself in an office in Lincoln's Inn Fields and has opened an office in New York. It has also

signed agreements with four of

the leading software houses

which have become associates

INSAC is hoping to sign up

another four to start the first

phase of its operations.

From the first it was decided

that the software houses which

agreed to co-operate should

maintain their independence.

Mr. John Pearce, INSAC's

managing director, explained:

"This is an entrepreneurial

business. The real entrepre-

neurs want to control their

own companies. If the NEB had

bought them up, the chances

are some of the best people

would leave." On the other

hand, the NEB was anxious that

it should have some stake in

the associates for commercial

reasons and it has negotiated

to buy between 28 and 30 per

cent of the equity of the four

houses so far in the fold.

Mr. Pearce explained: "We

are expecting to put some fairly

substantial contracts out to the

associated companies, perhaps in

the region of £500,000 to

£1m. It was therefore thought

desirable that the NEB should

have a stake in the companies.

Otherwise, it might happen that

one of the houses could be

bought by, say, Fujitsu a month

or two after we had given it a

contract."

In return for selling part of

the equity to the NEB, the four

companies, Computer Analysts

and Programmers (CAP) Ltd,

Systems, SPL Systems Pro-

gramming Limited) and SDL

Systems Designers Limited each

have a representative on the

various varieties of electro-

mechanical systems to com-

puter-controlled systems has

been the longevity and re-

liability of the former; which

are now seeking to extend

their telecommunications

network. Recently, the

Post Office chairman, Sir Wil-

liam Barlow, estimated that

the provision of facilities in

the U.K. will be found in the

1980s—when the Post Office

hopes to have its fully-electro-

nical exchange, "System X," on

the market.

First, though, what exactly

is a computer-controlled ex-

change? In one sense, the ques-

tion is a little difficult to

answer, because manufacturers

describe their products as "com-

puter-controlled" when these

products are often very differ-

ent. Further, computer-con-

trolled has been an incremental

rather than a sudden develop-

ment.

Electromechanical exchanges

evolved from distributed con-

trol, as in the Strowger system,

to central or common control

over a long period; the arrival

of electronic processors hast-

ened and completed the trend.

As Professor J. E. Flood of the

Department of Electrical Engi-

neering at Birmingham Uni-

versity put it in a recent paper,

"As a result of developments

in computer technology a single

electronic central processor unit

can now control a complete ex-

change. The use of stored

programme control (SPC) for

this processor results in great

flexibility both in the alloca-

tion of line terminations and

the provision of facilities in

developing countries—especial-

ly the wealthier ones—which

are now seeking to extend

their telecommunications

network. Recently, the

Post Office chairman, Sir Wil-

liam Barlow, estimated that

the provision of facilities in

the U.K. will be found in the

1980s—when the Post Office

hopes to have its fully-electro-

nical exchange, "System X," on

the market.

First, though, what exactly

is a computer-controlled ex-

change? In one sense, the ques-

tion is a little difficult to

answer, because manufacturers

describe their products as "com-

puter-controlled" when these

products are often very differ-

ent. Further, computer-con-

trolled has been an incremental

rather than a sudden develop-

ment.

Electromechanical exchanges

evolved from distributed con-

trol, as in the Strowger system,

to central or common control

over a long period; the arrival

of electronic processors hast-

ened and completed the trend.

As Professor J. E. Flood of the

Department of Electrical Engi-

neering at Birmingham Uni-

versity put it in a recent paper,

"As a result of developments

in computer technology a single

electronic central processor unit

can now control a complete ex-

change. The use of stored

programme control (SPC) for

this processor results in great

flexibility both in the alloca-

tion of line terminations and

the provision of facilities in

developing countries—especial-

ly the wealthier ones—which

are now seeking to extend

their telecommunications

network. Recently, the

Post Office chairman, Sir Wil-

liam Barlow, estimated that

the provision of facilities in

the U.K. will be found in the

1980s—when the Post Office

hopes to have its fully-electro-

nical exchange, "System X," on

the market.

First, though, what exactly

is a computer-controlled ex-

THE COMPUTER INDUSTRY X

Robots ready to take over

ANYONE WHO has had to walk around the often dark satanic mills of industry will be able to think of many plants where a long-armed robot would make working conditions so much better for operatives, taking hot castings from their dies, placing sheet between the jaws of giant presses and so on. Car assembly lines, though strenuous, do not generally operate in the conditions of heat and noise that foundry workers and people in rolling and stamping mills take as a matter of course.

It is thus somewhat ironical that it will be in a brand-new purpose-built plant at Longbridge, being set up for the production of the new Leyland model, that the first large-scale use of robot welding equipment in Britain will take place.

Seaky Electric Welding Machines has the contract for the construction of two vast welding lines for the Longbridge plant and this company has ordered a total of 28 industrial robots from Unimation of Telford, Salop, to go into the welding complex which will cost some £7m. to set up and program.

Automated

The robots will include several long-reach units and a first batch will be delivered in time to be incorporated into the first of the body frame production lines when it nears completion late this year, making the new Longbridge centre the most highly automated factory in Britain.

Designers believe the plant will be a match for any European car plant and that it should allow the new Mini to be produced with far fewer rejects and to a far greater accuracy thanks to constant line checks and the precision with which line spot weld guns and the robots can be controlled.

These robots have a certain amount of intelligence which allows them to follow a sequence

of instructions which will take movements it would be required to perform on site. Each one is used with great sensitivity to the right spot on the recorded in the memory and the vehicle body, or to inhibit the full sequence can then be re-sequenced if a tolerance checking peated ad infinitum and to very close tolerances.

Similar machines from Unimation will be incorporated in the Fiat production plant which is being designed around a new-old concept in a work "cell" constituted by a trolley operating under computer control. This vehicle picks up car parts and presents them for spot welding to the robots which are equipped in sense what type of car is present and then "know" where the spot welds must go.

This Robogate system was initiated by Fiat's Comau machine-tool subsidiary working with Digitron of Switzerland. It is expected to be at least as productive as the standard type of production line and far more easy to switch to variations on a basic car theme, since there will be no need to halt an expensive production line and carry out lengthy modifications.

The control computer, the automatic guide lines and the robots only would require to be re-programmed in most cases.

Both at Longbridge and Milan, the robot welders are integral parts of the plant, reflecting the very considerable use of spot welding robots on production lines in Japan. However, some Japanese car plants are using robots for heavy-duty welds on those sections of the car underbody which require particular strength and stiffness.

In Sweden, both Saab and Volvo are using ASEA/ESAB robots for arc welding work, these robots being of a somewhat different type from the Unimation design. The ASEA unit uses a tiny computer (an Intel 8080 microcomputer) to memorise sequences of movement as well as prohibited manoeuvres.

It is taught what it is required to do by a human operator taking the articulated arm through the full sequence of

fingers as well as wrist force sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

ASEA itself is making extensive use of its own machines, particularly where hot and/or dangerous repetitive work has to be carried out and in some instances where the robots are made to operate round the clock. An example of such an application is in the positioning and unloading of stainless steel components on polishing equipment which uses a particular obnoxious powdery black buffing medium.

Subsidiary

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only beginning to handle the "idiot" dirty and noisy jobs. They also are beginning to penetrate into areas which hitherto have been the preserve of highly skilled operatives, in the name of productivity and cost reductions.

Meanwhile, Unimation is spurring development work at a subsidiary it acquired nearly a year ago under the name of Vicarm. Now called Unimation West, this organisation has supplied computer-controlled and electrically driven robot arms in hand in Britain and the U.S. somewhat similar to the ASEA type to MIT, Stamford Research Institute, and the U.S. National Bureau of Standards, among others, for research into automatic assembly, machine intelligence and so on.

Development is being pushed along the lines of improved sensors for the arms and better servos as well as more powerful software to make it easier to instruct the control computers in their tasks. Presumably the weight capacity of those units will also be increased.

The micro used in these devices is a DEC LSI-11 which can "talk" to PDP-11, Nova and Interdata machines.

Options offered with the arms are force and touch sensing

and presence sensors allowing the arms to be used with great sensitivity. Both types of arms have six degrees of freedom.

Meanwhile Unimation is planning to spring a surprise on the opposition at the Harrogate Welding Engineering Exhibition in May. It will take the shape of a robot carrying out continuous seam welds and having enough intelligence to move the welding torch in as many as five axes simultaneously.

The Unimation/WIRS system consists of the robot and the equipment it controls—power supply, shielding gas supply and wire feed units. And like the ASEA units, the system can be taught to weld a different workpiece in a few minutes at most.

Productivity compared with manual operators is greatly enhanced. But a key point is the suitability of the system for short production runs.

Thus the robots are not only

THE COMPUTER INDUSTRY XII

Schools slow to respond

WHEN contemplating marriages of convenience for the future, the computer industry might seem to have few better prospective partners than formal education. With an annual income of about £7bn. from taxpayers' money, the network of State schools, colleges, polytechnics and universities in Britain has a particularly plain need of good husbandry.

In this capital-intensive age, the network employs one teacher, supporting worker or administrator for roughly every ten of its 8m-plus customers. Salaries and wages take upwards of 70 per cent. of the annual budget. Another characteristic is marked variations between different local authority areas, and between teaching institutions, in efficiency and attitude of management and in content and methods of tuition.

The incongruities may partly account for a high "reject rate" among the network's products. By the educators' own favourite yardstick — the attainment of sufficient qualifications at school to continue full-time formal study — nearly half of school-leavers fail. Certainly the lack of continuity between study courses in different places, and between different schools in the same place, is worrying Ministers involved in the "great debate" begun by the Prime Minister 16 months ago in the hope of making education more attentive to the needs of the outside world which pays its keep. Government believes that often justified fears by parents that their children's studies will be fragmented by a move of home contribute to the championships originated by the Financial Times which now attract a paying entry of thousands of contestants annually in numerous countries.

Learning-exercises which attract adults to pay money should surely encourage youngsters to pay attention.

Education should therefore have much to gain from investing a considerable share of its income in the products and services of the computer industry. Of the main kinds of benefit offered by such an arrangement, in education, probably the most evident is distinctly relevant to the "great debate's" management. This could provide more coherent and efficient

means of control and co-ordination at and between the levels of national agencies, local education authorities and teaching institutions, and within the classrooms themselves.

At this last "chalk-face" level much of the individual teacher's time is taken by administrative tasks such as allocating and testing work, and marking and recording the results. Tasks like these are plainly within the capabilities of the new technology. The five-year national development programme lately completed under the leadership of the Council for Educational Technology has indicated that computer-aided management systems can be applied to classroom work in specific subjects and probably to teaching organisations generally, as well as to school-level tasks such as working out the timetable.

The national programme has also indicated that a second kind of benefit, freeing still more of the teacher's time for personal tuition to pupils, could come from computer-assisting the actual process of teaching. The routine tasks of instruction are often adaptable to programmed-learning systems, operating with or without access to an interactive terminal.

Versatility

In addition, the versatility of the computer can enhance class-teaching by making available fresh techniques, such as the simulation of the effects of students' theories which underlie the national management of labour shortages in some areas alongside high unemployment in others.

Education should therefore have much to gain from investing a considerable share of its income in the products and services of the computer industry. Of the main kinds of benefit offered by such an arrangement, in education, probably the most evident is distinctly relevant to the "great debate's" management. This could provide more coherent and efficient

lessons about computers, it could foster understanding of the new technology among youngsters who, whether or not they will have direct influence over its limitations and possibilities, look certain to be more and more affected by it after they leave school for the outside world.

Although the predicted growth in educational spending over the next four years will be slow, the potential benefits of recourse to computers have been clarified.

Moreover, the certainty that



Pupils at Minchenden School (Upper) in Southgate learning to use a computer in their classroom. Minchenden is one of the 13 north London schools which have remote terminals connected to Middlesex Polytechnic's new DEC system 10 computer.

numbers of pupils will diminish through the 1980s offers the network rare scope for innovation.

So onlookers inclined to match-making might see every reason to expect the rapid development of a most fruitful union between education and the computer industry. They would, however, almost certainly be over-optimistic. Like many match-makers before, they would be romantically overlooking factors which, to the prospective partners themselves, are serious impediments.

While education's £7bn. budget may seem a vital statistic to outsiders, it is not the type of figure to attract serious attention from the computer industry's marketing specialists. They will be concerned with the number of potential user-institutions which, since they are unlikely to include many primary schools, total a relatively small 7,000 or so. Even more significant is that when payroll and building costs have been met, less than 5 per cent. of the State education budget is left, for which computing is only one of numerous competitors including the suppliers of far more established educational equipment and materials.

Increasing spending on computers so as to procure more compensating savings in staff costs may be justified in theory, but it is hardly practicable. Even if the predicted reduction in real terms of the cost of hardware were not outweighed by increases in the expense of educational soft-

ware, computer-assisted instruction would still seem unlikely to produce a significant reduction of the costs of traditional teaching which in secondary schools were estimated last year as ranging from 22p to 58p per student-hour. By comparison, student-hour costs between £4 and £10 were quoted for interactive terminals, which have the added disadvantage of suspect reliability.

This may explain why Ministers have made little apparent attempt in the debate to stimulate discussion of the possibilities of computers. Rather than risk substituting organised antipathy for the present general apathy among educational workers towards the new technology, the Government may have decided to leave its adoption mainly to a process of osmosis, perhaps hastened after 1981-82 by extra funding.

Even so, more money would courses appear unlikely to stimulate acceleration until the responding proportion may well a result of the national development programme. Perhaps the educational profession has built up a critical mass of people training colleges of which a third at least are thought to meet especial fervency.

This may explain why Ministers are keen to realise and disseminate the benefits of computers — a development which looks a long way off at present.

Between a quarter and a half of State secondary schools in England and Wales are estimated to offer some kind of course related to the new technology, and possibly a good half of those in Scotland, which is made little impression on the arts-side fraternity.

To say that progress towards a fruitful partnership between the computer industry and education is bound to be slow is not, however, to deny that a useful start has been made, par-

ticularly towards computers

and management systems

— a result of the national development programme. Perhaps

the most encouraging advance

is that by the end of the five

period, the programme's

paid staff had gained almost

more teacher-helpers. And

they are outnumbered

wholly by their staff

colleagues, 600 enthusiasts

inside surely constituting

far more powerful force

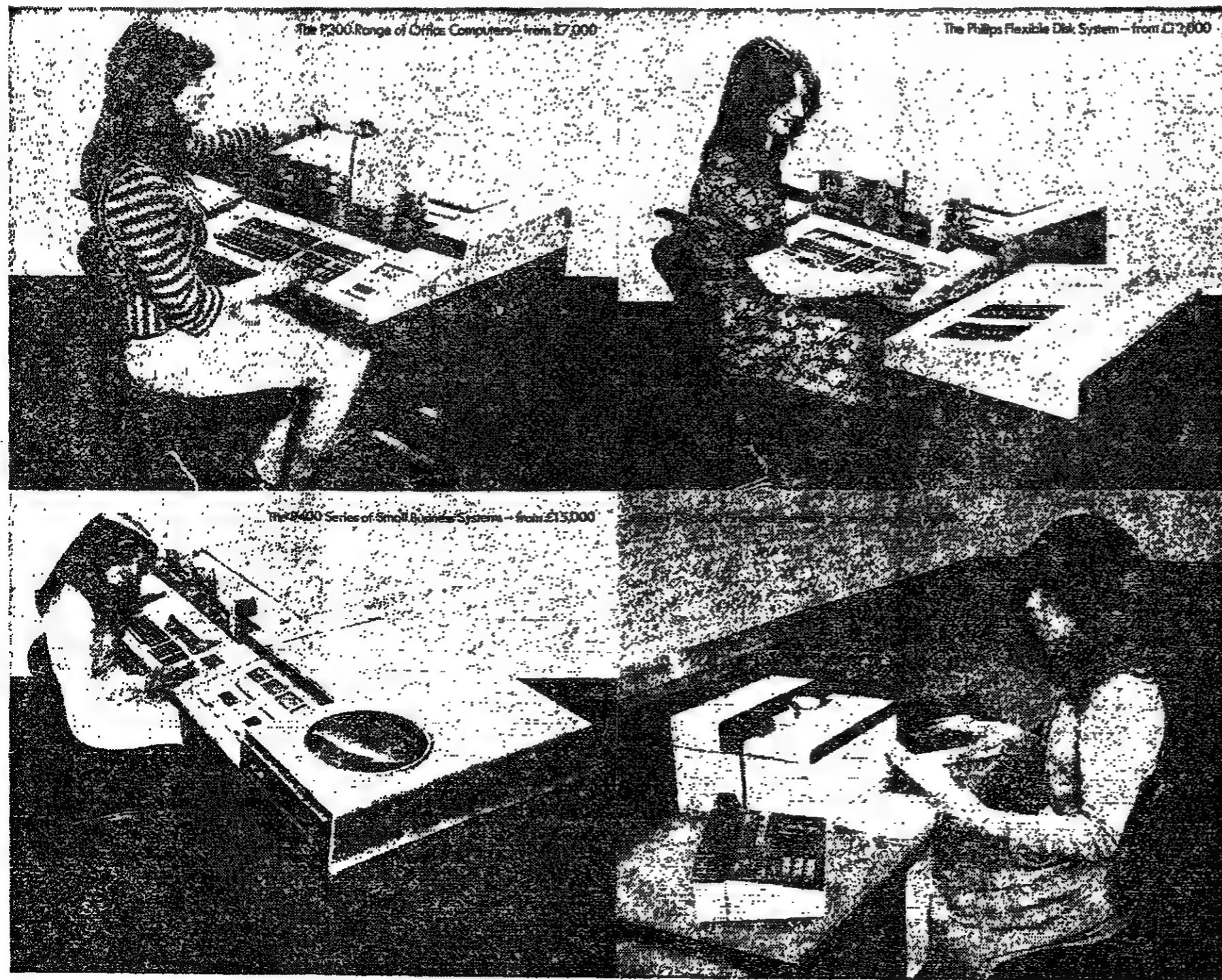
conversion than any amour

exhortation from the outside.

Michael D.

Education Correspondent

From Europe's No 1 in Electronics, The No 1 Range of Business Computers



Some facts you should know before choosing a business computer

The Philips range is unique; it offers a wide choice and a high degree of built-in growth potential, so that your system can develop with your company's developing needs. Choose Philips, for computers that grow with you.

Philips' concern for customers is unequalled. Our systems are carefully designed to be "user-friendly"; we invest heavily in fully-qualified staff for Sales, Engineering, Training, and Installation; we treat every customer as a long-term relationship. Choose Philips, for a lifetime of good service.

Our Engineers pride themselves on maintaining the most exacting standards in their field. Philips' systems are designed for fast and efficient servicing, and our Engineers are on the spot, whenever you need them — whether you're in the Shetlands or Central London. Choose Philips, for reliability.

Philips' annual turnover is £7,000 million. Over £400 million is invested each year in Research and Development. Since the early days Philips has pioneered innovation in computers, and still leads the field in technological progress. Who else can offer you this kind of background? Choose Philips, for security.

Whether you're looking for a small computer, a medium-sized system or a terminal system, we've met your problem before (thanks to over 70,000 installations, in just about every business you can name). Ring us with an outline of your needs, or drop a line to our Head Office and we'll come up with the right answer. Choose Philips, for people who talk your language.

Philips Data Systems
A Division of Philips Electronic and Associated Industries Ltd.
Elektra House, Bergholt Road, Colchester CO4 5BE.
Telephone (0206) 5115

PHILIPS computers that talk your language

The case for rescuing the Think Tank

CENTRAL Policy Review should be rescued. The ticks on its report on Britain's overseas representation have ranged so severely that even best friends in Whitehall ask themselves whether Think Tank has a useful life. The answer must be that it would have—but that its survival probably depends upon the fitness of the next Prime Minister, Labour or Conservative, to give it new life.

Perhaps the best argument in favour of its continued existence is that the Cabinet needs a supporting office whose primary is to advise on the Government's overall strategy. In since the White House staff this in France, the Krysses in British Government was complicated Cabinet Ministers assisted by a strong secretariat, a willing and cohesive board of directors themselves.

Contemporary Britain's most departments are so that they are almost unanswerable. Ministers are very determined indeed to find the time to go beyond their immediate responsibilities. They could it is an interdepartmental committee, and often do—but is subject to the fatal defect such committees can only an agreement if nobody is its upset. Only a detached provided a staff to give them relatively impartial body of civil servants can serve the Cabinet alone.

Everything changed when Labour returned to office. then Mr. Harold Wilson brought the Think Tank in 1971. In Dr. Bernard Donoughue to give a firm start, partly provide strategic and tactical use of the then Prime Minister, the Prime Minister. A small determined that his own staff was recruited to assist Dr. Donoughue. In theory this unit

Old hands

The trouble is that when old hands look back on those days they start wondering whether it was only the combination of those two personalities, plus the peculiar qualities of that Conservative government, that gave the Think Tank its impetus during those years. Every six months or so Lord Rothschild and his young graduates (average age 35 without counting him) would present Ministers with a half-term report on progress. They would use coloured slides, films, and dramatic charts. It all seemed very businesslike; when the individual subject reports started rolling in they had the strength of both novelty and the connection with the half-yearly presentations. Mr. Heath kept his Ministers on a tight rein: if he provided a staff to give them collective back-up service, they were expected to take notice.

Everything changed when Labour returned to office. then Mr. Harold Wilson brought the Think Tank in 1971. In Dr. Bernard Donoughue to give a firm start, partly provide strategic and tactical use of the then Prime Minister, the Prime Minister. A small determined that his own staff was recruited to assist Dr. Donoughue. In theory this unit

partly because its first head, was complementary to the CPRS, since the former was political and served the Prime Minister only, while the latter was independent and served the entire Cabinet. We cannot know how this theory squared with the functions of the CPRS and this remains an excellent reason why such an organisation should be nurtured.

Yet Dr. Donoughue had a number of inbuilt advantages not available to his opposite number. Lord Rothschild could not achieve the intimate contact with the new Prime Minister that he had enjoyed with Mr. Heath. Dr. Donoughue had his office right inside Downing Street, giving him constant contact and daily conversation with Sir Harold. When Sir Kenneth Berrill took over the CPRS from Dr. Donoughue, he soon after Labour came to power the feeling that the Think Tank was something outside the Downing Street circle was magnified.

In different circumstances—and had he been a different man—Sir Kenneth might have tried to cultivate his proper constituency, the Cabinet as a whole, in an effort to make up for the weakening of the link with the Prime Minister. Here again, circumstances did not favour the CPRS. Some Left-wing Labour Ministers noted that a few prominent young Conservatives (William Whitelock, Adam Ridley) were working for the Think Tank, and drew the inference that its advice was not for them.

As a breed, Labour Ministers tend to prefer their own political advisers to the central policy review staff and anyway most of them have a fairly inflated opinion of their ability to man-



Changing Think Tank: Sir Kenneth Berrill (left), present Director General, and his predecessor, Lord Rothschild.

agement so often urged on all reports on energy conservation from the rest of Whitehall and race relations, for example; or their last-minute rescue of the PWR from the oblivion to which the recent policy statement on nuclear power might have consigned it.

But how can it be rescued?

Sir Kenneth said yesterday that he has no immediate plan to leave his post, and it would be unfair to place the entire

blame on his shoulders when it is seen how much the circumstance of a particular Labour Government contributed to the Think Tank's misfortune. But there is no way for the public, or much of the Civil Service, to judge this hidden segment of the iceberg.

The upshot is that morale inside the CPRS is hardly at its highest, while its stock within Whitehall is very low indeed. Some whisper that the young outsiders who work for the Think Tank have gone too far for this message; others, in direct contradiction, that Sir Kenneth is too far under the influence of Sir John Hunt, the Secretary to the Cabinet. The young outsiders themselves are not quite so young any more.

Reaction

One indication of why it would be right to rescue the Think Tank from its present depression in the current reaction in Whitehall. Those who rejoice in the idea of its possible demise, one gathers, are by and large the officials who long for a return to the days when there was no counterweight to departmental or interdepartmental briefs—when no body of people at least half of whom were not civil servants could

put its feet up. The regular strategy reports should certainly be offered to the new Government. There should, perhaps, be more outsiders and fewer civil servants: it is to Ministers, Parliament, and eventually the public that a CPRS with its own long-term future at stake should be looking. Yet the backing of the Prime Minister of the day, plus that of another senior Minister or two, would be a vital ingredient. The response of our next Prime Minister to this machinery-of-government problem will be an early indication of his or her sense of the importance of broad strategy.

Joe Rogaly

Letters to the Editor

New contract conditions

Mr. M. Millman

Schedule 2 of the Unfair Contract Terms Act 1977 sets out for the application of reasonableness test for contracts where one party is trying to avoid or limit his liability under a contract. The Government now has a stated intention to impose, and to partake, Government-control, of conditions to impose, conditions on contractors regulating payments. It is said that h of such a condition would be penalties and the avoidance of obligations by the payment entity.

would, therefore, be testing if a brave contractor body to challenge these conditions under the terms of rule 2. For instance, the of the bargaining position of the parties (paragraph 4(d)). If the CBI is so strongly, surely it support a test case.

Another negotiator will tell you, "a practical test of reasonableness is to seek the other party and invite the other to accept the same obligations that they are seeking to impose. I suggest, therefore, that conditions be made to either party—that is if Government nationalised bodies and statutory undertakings have the courage to their own conditions, all it is only fair and reasonable and much more relevant to the national interest and vision of inflation.

Millman, Wrighton Process Engineering Ltd., 101, Stockton-on-Tees, and

would help to examine how the conclusion was reached.

We are not saying that Gatwick, with one runway, could handle 25m. passengers with its current mix of aircraft, because Heathrow, with about the same level of passenger traffic in 1977, certainly needs two runways.

We are saying that, by the 1990s the average size of aircraft and their passenger loads will have increased to a level which will make this possible.

In 1977 Gatwick handled 6.5m. passengers on 80,000 commercial aircraft movements, with an average load of 87 passengers per aircraft. This compared with an average load on Heathrow's aircraft of 106 passengers.

The ultimate level of aircraft movements that can be handled on Gatwick's runway has been assessed in the Government's airports policy White Paper at 160,000 movements, that is double the present amount. Therefore, on the basis of present passenger loads Gatwick could cope with about 23m. passengers. So, to achieve 25m. passengers, aircraft loads need to grow to a little less than double what they are at present, say, 185 passengers per aircraft.

This growth does not seem to be unreasonable, to us given the sort of aircraft fleet that will be flying in the 1990s. Skymain, for example, is already carrying about 280 passengers on average, while Boeing 747s at both Heathrow and Gatwick regularly carry well over 400. The Government in its 1975 consultation document "Airport Strategy for Great Britain," assumed a figure of 180 to 200 passengers per aircraft by 1990.

Of course, there will continue to be small aircraft carrying well under 100 passengers, but there seems no good reason why an average of 185 should not be achieved. After all, in 1962 the average load at Gatwick was only 40.

John Mulroney, 2 Buckingham Gate, S.W.1.

Baggage at Heathrow

From Mr. L. Gubay

Sir—The South African Airways flight from Johannesburg arrived promptly at Heathrow at 7.00 a.m. on February 13. Passengers were told that it would take British Airways about one hour to unload our luggage because of the cold weather. Some of us wondered whether two degrees of frost was unusual at seven o'clock on a February morning!

We waited patiently for over an hour and a half in the cold, draughty baggage hall, watching luggage flowing smoothly for other airlines not dependent on the services of British Airways. Eventually questions were asked.

As we have this rail link to Continental Europe, the contribution factor in the safety conflict explanation offered was that the single serviceable unloading machine, out of a fleet of 40 such vehicles, had just broken down and could not be repaired.

British Airways' staff would strike if one of the other airlines was asked to assist. The airport would be brought to a standstill if passengers attempted to unload their own luggage.

No British Airways manager could be persuaded to speak to the passengers. Junior members of the staff were variously apologetic, ineffective, or downright rude. Deadlock.

At five to nine I told British Airways that unless a manager

Debt collection agencies

From the director of Consumer Credit, Office of Fair Trading

Sir—Mr. Watson, (February 17) said that the Office of Fair Trading has not yet refused an applicant a licence under the Consumer Credit Act.

The director general of fair trading has already issued a number of "mined to refuse" notices to applicants and many more will be issued over the next few months. Applicants have the right to make representations at this stage and to appeal against an adverse licensing decision. It is right that these safeguards should exist to ensure that the honest trader is not unjustly treated even if they may cause delay in rooting out untrustworthy traders.

In addition, there have been some applicants with improper or unfair trade practices who, when challenged, have given undertakings to the director general that they will discontinue these practices. They have been granted licences in the knowledge that should they break these undertakings their licences will be revoked.

Firms and individuals had several years to put their houses in order before licensing arrived and the knowledge that licensing was coming has already had an effect in cleaning up the credit industry. We shall never know how many firms decided that they had little or no chance of being considered fit persons to be given licences. What we do know is that when we have asked some applicants for further information, we have discovered that they have recently closed their business down or have replied to the effect that they are going to do so.

Any licence holder who misbehaves may be putting his licence and therefore his livelihood in jeopardy. He will lay himself open to complaints from the public which the director general is bound to consider.

A. D. Scott, Field House, Bream's Buildings, E.C.4.

Understanding agriculture

From Mr. P. T. Tory

Sir—About 18 months ago, the Parliamentary Committee of the central southern branch of the National Farmers' Union decided to invite MPs from the surrounding urban areas to come down and visit two or three farms. The idea was that they should meet the farmers and at first hand the methods and problems involved in producing the nation's food, thereby improving the

GENERAL Provisional unemployment figures for February.

Tesco shop stewards consider company's revised pay deal, following their rejection last Friday of its previous offer.

Mersyside County Council announces its spending plans, including measures to attract industry.

Mrs. Margaret Thatcher, Opposition leader, speaks at Engineering Employers' Federation dinner, Dorchester Hotel, W.I.

Mr. Peter Parker, British Rail chairman, is guest speaker at Westminster Chamber of Commerce lunch, Savoy Hotel, W.C.2.

British Growers' Look Ahead conference and exhibition, organised by National Farmers' Union, opens at Harrogate Exhibition

GENERAL

Provisional unemployment figures for February.

Tesco shop stewards consider company's revised pay deal, following their rejection last Friday of its previous offer.

Mersyside County Council announces its spending plans, including measures to attract industry.

Mrs. Margaret Thatcher, Opposition leader, speaks at Engineering Employers' Federation dinner, Dorchester Hotel, W.I.

Mr. Peter Parker, British Rail chairman, is guest speaker at Westminster Chamber of Commerce lunch, Savoy Hotel, W.C.2.

British Growers' Look Ahead conference and exhibition, organised by National Farmers' Union, opens at Harrogate Exhibition

Centre (until February 23).

Advertising and Marketing Service exhibition opens, Wembley Conference Centre (until February 23).

PARLIAMENTARY BUSINESS

House of Commons: Debate on Opposition motion on taxation.

Debate on MP's secretaries and research assistants.

House of Lords: Participation

Agreements Bill, third reading.

Suppression of Terrorism Bill, committee.

Shipbuilding (Redundancy Payments) Bill, second reading.

Debate on disarmament.

Select Committees: Nationalised Industries (sub-committee A).

12. Stakeholders (Reo.) Organisation, Renfrew, 3.

OPERA

English National Opera production of Tosca, Coliseum Theatre, W.C.2, 7.30 p.m.

BALET

Royal Ballet dance Mayerling, Covent Garden, W.C.2, 7.30 p.m.

MUSIC

Margaret Phillips gives organ

recital of works by Alain, J. S.

Bach and Bonnet, St. Lawrence

Church, W.C.2, 7.30 p.m.

London Symphony Orchestra, conductor Yevgeny Svetlanov, soloist John Lill (piano) in programme of Rimsky-Korsakov (Procesion of the Nobles), and Beethoven (Piano Concerto No. 1 in E flat), Royal Festival Hall, S.E.1, 8 p.m.

To-day's Events

Our vetting system is so strict, 95% of our applicants won't wear it



As part of the largest total security company in Europe and the world, Group 4 provides the most comprehensive and up-to-date range of services available.

From personnel to equipment—from start to finish—we accept only the highest standards.

Our Vetting procedure is so stringent that 95% of the people we interview never make the grade.

Those who do are subjected to what is, without a doubt, the finest Training Programme in the business.

And for three months after that, they're only on probation!

When it comes to buzzers, bells, master control systems and all the rest of the sophisticated equipment we need to do our job, we're even tougher.

We can't afford to take any chances. So we design, develop and manufacture it ourselves.

And we don't put our name on it until it's satisfied a Quality Control routine so stringent that the ratio of 'testing' personnel to those involved in manufacture is almost 1/1.

If we've learned one thing after 70 years, it's this....

If there's the slightest risk involved, we just won't wear it.

How about you?

group 4
TOTAL SECURITY

Giving the world a sense of security

COMPANY NEWS + COMMENT

Marchwiel climbs to a record £13.4m.

BUILDERS. CIVIL engineers and public works contractors, Marchwiel Holdings, reports pre-tax profits ahead from £10.75m. to a record £13.39m. for the year to October 31, 1977, on turnover of £169.68m. compared with £152.25m.

Overseas operations contributed £36.28m. against £45.28m. to turnover and £1.39m. against £1.28m. to profits.

At the midway stage profits stood at £5.39m. (£4.35m.) on turnover of £82.85m. (£77.92m.). In their interim statement the directors said that virtually every company in the group was contributing satisfactorily to profit and while growth of overseas operations had not been as rapid as planned, both turnover and profit were expected to show an increase for the full year.

After tax of £5.27m. compared with £4.34m. full year earnings are shown to be up from 38.5p to 49p per 25p share and as promised the final dividend is 2.5p not for a 3.4p (3.05p) total.

With extraordinary debits taking £22,000 against credits of £302,000 and £1,000 (£5,000) going to minority interests the attributable balance rose from £6.98m. to £8.04m. and £1.08m. (£8.45m.) is retained.

Pre-tax profit was struck after depreciation of £5.48m. (£4.04m.), hire of plant and machinery of £8.33m. (£8.74m.). Last year additional pension fund premiums absorbed £1m.

Net assets stood at 240p (200p) per share at the year end.

Liquidity up

Mr. A. J. McAlpine, the chairman, says the slight decrease in turnover is not a sign of weakness as it has been policy not to take on loss making contracts at a time of depression in the industry merely to expand workload. There now appears to be some improvement in the prices at which contracts in some sections of the industry can be obtained and workload prospects are improving.

The group has not made the progress overseas that was hoped for but substantial contracts are likely to be obtained in the near future. The decrease in overseas profit is mainly due to a dispute with a client on a large overseas pipeline contract and heavy costs in setting up new companies in the Middle East.

The increase in profitability at home includes some settlement of old contracts and further settlements should also help the current year's trading. Liquid resources and short term investments have further increased during the year and now represent nearly 220 pence a share.

Sir Alfred McAlpine & Son (Northern) had a successful year in spite of lack of full utilisation of staff, workforce, and plant. Although there are definite signs of increased activity in both building and civil engineering work keen competition and resultant low profit margins still give rise for concern.

Nevertheless the position is far healthier than at this time last year. Existing motorway contracts are now nearing completion but have been badly affected by the weather. The company has been successful in a number of new road tenders recently and this should enable better utilisation of plant and resources in the coming year.

At Sir Alfred McAlpine and Son (Southern) profitability was

INDEX TO COMPANY HIGHLIGHTS

Company	Page	Col.	Company	Page	Col.
Atlantic Comp.	30	5	Jentique	31	4
Electra Inv.	30	2	Marchwiel	30	1
Eng. & Scot. Inv.	30	5	Meggitt Hgds.	30	5
Footwear Ind. Inv.	30	3	Orme Devs.	30	7
Gateway Secs.	30	8	Reed Nampak	31	2
Gripperrods	30	5	Standard Chartered	31	5
GKN/Sachs	31	6	Steel & Alloys	31	7
Hawley Goodall	31	2	Stirling Knitting	30	4
Henry	30	4	Stocks (Joseph)	30	3
ICFC	30	5	Tate & Lyle	32	5
Imperial Tobacco	31	4	Trafalgar House	31	3
Jotel	31	6	Wiseman (M.)	30	2

similar to last year's slight reduction in turnover. Increased activity in industrial building helped to compensate for a fall in demand from the road and public housing sectors.

The overseas contracting turnover of Marchwiel Holding A.G. subsidiary and associated companies has been maintained but with reduced profits. This is after taking into account substantial costs incurred in respect of establishing new markets and start-up costs of new ventures.

The overseas loss on pipelines undertaken by McAlpine Services & Pipelines account for a large percentage of the reduction in profit.

It remains policy to expand overseas activities and during the year new markets have been actively investigated in the Middle East, Africa and South America. In particular opportunities are being sought to expand opencast activities to parts of North and South America.

Mr. McAlpine says that there appears to be an upturn in workload prospects in the UK and in recent weeks several substantial contracts have been obtained. Overseas the group hopes to sign large contracts in the near future. Negotiations for work take far longer overseas than at home and competition is severe, but he is convinced that long term the prospects there are good.

See Len

M. Wiseman six months downturn

Optimistic manufacturers and distributors, M. Wiseman and Co., turned in lower taxable profits for the half year to September 30, 1977 of £448,000 compared with £539,000 last year. Sales figure was little changed at £7.83m. against £7.82m. Profit for the whole of the 1976-77 year was down from a peak £1.47m. to £1.43m.

Tax for six months took £15.000 (£264,000) leaving a net profit so far at £233,000 (£265,000). All the Ordinary capital is owned by UKO International.

ELECTRA INV.

Electra Investment Trust proposes to repay the outstanding 8 per cent Debenture stock 1984-85 at £100 per £100 nominal, on March 22, 1978, together with

£10 per cent interest accrued.

FII at £0.42m. so far

Turnover for the six months to November 30, 1977, of Footwear Industry Investments expanded by 25 per cent. from £4.46m. to £5.38m. but pre-tax profits were lower at £20.000 against a record £35.200. The surplus for all 1976-77 was £223,000.

The directors say that first half profits would not be exceeded than for last year but with the withdrawal of Regional Employment Premium and lower interest rates which it is estimated, reduced income by £5.000.

Mr. N. Sumray, the chairman, says that the rate of turnover increase has been maintained and if the trend continues, FII should see an adequate full year profit. He adds that liquidity remains strong.

First half earnings are shown at 4.96p (5.36p) per 25p share and the interim dividend is effectively raised from £1.270.00 to 1.4p net. Last year's total was equal to 3.874.24p. After a three-for-two stock issue of 100 shares and consolidation into 25p shares.

As anticipated, the merchanting activities made an increased contribution but, because of changed demand, its factories showed some downturn. This pattern of trading is expected to alter in the second half to the extent that the factories should do better, although merchanting may not match its first-half contribution.

Taking account of waivers by Mr. and Mrs. Sumray on part of the entitlement on their 1,200,000 shares, the total cost of the interim dividend is reduced by £16,632 to £40,082.

Tax for six months took £15.000 (£264,000) leaving a net profit so far at £233,000 (£265,000). All the Ordinary capital is owned by UKO International.

Joseph Stocks holds £0.27m. in first half

Excluding the results of the two acquisitions made in September, taxable earnings of Joseph Stocks and Sons (Holdings) were maintained for the half-year to September 30, 1977, at £268,023, against £257,376. Sales were £1.46m. ahead at £181.6m.

The directors say that they look forward to continuing progress. The net interim dividend is held constant at 8p.

at 1p per 25p share. Last year's final was 2.86p paid from profit of £65,376.

Depreciation at half time was £53,343 (£48,862) and after tax of £13,771 (£13,800) net profit emerged at £31,854 (£30,076).

The company operates as wholesale provision merchants, importers and distributors.

Equivalent after allowing for scrip issue.

Dividends shown in pence per share net except where otherwise stated.

Increased by rights and/or acquisition issues.

£ Gross.

DIVIDENDS ANNOUNCED

	Current payment	Corresponding div.	Total for year	Total last year
Daytree Commercial	3.19	2.60	4.5	4
Eng. & Scott. Inv.	2nd int.	1.8	2.45	2.2
Footwear Ind. Inv.	3.0	1.4	3.57	3.57
Gripperrods	1.62	1.07	—	1.98
Jentique Hgds.	int. 0.92	—	—	—
Marchwiel Hgds.	int. 2.4	2.15	3.4	3.05
Orme Devs.	int. 1.2	Mar. 31 0.35	—	0.7
Stirling Knitting Grp. int.	0.35	April 4 1	—	3.86
Joseph Stocks	int. 1	—	—	—

Dividends shown in pence per share net except where otherwise stated.

Increased by rights and/or acquisition issues.

£ Gross.

Orme slumps but sees recovery

income appeal. The interim dividend is uncovered by half-year earnings and around £65,000 has had to come out of reserves to pay it. Although the group has recently raised its dividend by up to a fifth, the grim winter weather has hindered output. The shares stand on fully taxed historic levels of around 19p and the second half will show a very substantial improvement. Profit for the whole of the 1976-77 year was almost halved to £1.36m. to a depressed 20.33p. Directors, however, say that they have recently raised prices by 15-20 per cent and the second half will show a 7.7 per cent. However, the group has seven years' life in its land bank, the bulk of which has planning permission. This could make Orme an attractive take-over target.

Gateway assets rise 22%

ASSETS OF THE Gateway Building Society rose by record 22 per cent in 1977 from £441m. to £531m. Share and deposit rates are now the highest in the industry.

Yesterday, Gripperrods, announced that its pre-tax profits rose only 1.4 per cent to £253,221 in the first six months—but results from Cimco were not included because of outstanding legal uncertainties.

Mr. Gerald Ronson, chief executive of Heron, said yesterday that the facility meant all the completed U.K. investment properties would be funded on a medium- to long-term basis. The loan is to be secured by charges on prime properties although not all the facility will necessarily be used for financing property.

Mr. Ronson said that the use of Eurosterling would have certain advantages for Heron in view of its particular circumstances. However he was not prepared to go into details on this point.

A spokesman for the syndicate said the advantages were a "trade secret" which he did not want to reveal to other bankers.

The facility, available for eight years, was offered by a syndicate led by Barclays Merchant Bank. The other members consist entirely of the four major clearing banks. The spokesman said he expected the major clearing banks to get together to offer in the future.

As anticipated, the merchanting activities made an increased contribution but, because of changed demand, its factories showed some downturn. This pattern of trading is expected to alter in the second half to the extent that the factories should do better, although merchanting may not match its first-half contribution.

The new Preference shares will be redeemable at par by 14 equal annual instalments of £10,000 each, commencing March 31, 1983, and a final instalment of £120,000 on March 31, 1977.

Longton has a variety of interests including road storage and distribution, shipping and forwarding and steel stockholding. Pre-tax profits for the year ended March 31, 1977, were £1.3m. (1.261,916).

The interim dividend remains at 8p per share net. A total of 0.7p was paid for all last year on profits of £254,370.

An extraordinary meeting will be held on March 13 for this purpose. The Board states that it has no present intention of issuing any ordinary shares.

The new Preference shares will be redeemable at par by 14 equal annual instalments of £10,000 each, commencing March 31, 1983, and a final instalment of £120,000 on March 31, 1977.

Longton has a variety of interests including road storage and distribution, shipping and forwarding and steel stockholding. Pre-tax profits for the year ended March 31, 1977, were £1.3m. (1.261,916).

Gross revenue for the year was £1.34m. (1.21.88m.) and earnings per share are stated at 2.45p (2.3p). An increased second interim 1.85p compared with 1.6p is to be paid with the total to 2.45p net per 25p share (2.2p).

A scrip issue of 2.76738 new "B" shares for every 100 now held is also proposed. Net asset value per share is given at 83p (81p).

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly developing industrial leasing company.

He says that 1978 will be a year of consolidation and further growth for Atlantic. The year has begun with a sales and lease order backlog of £2.5m. a well balanced stock position and a new and rapidly

Only ahead so far and continuing

R. the first four cent of the equity, previously a current year at held by Heron Motor Group, a healthy increase.

Meeting, 385/15 Euston Road, N.W. on March 15 at noon.

Annual statement, and evidence that this running. He confirmed a highly satisfactory

tax profits for the year 30,1977, a record £4,220, and is increased to

£4,320.

tion made by retail

departments was

TURNED FOR THE 1977 year

the improving

the closure of some

stationary activity in

mobile field made

return to the in-

and the growth

expansion in this

in leasing indicated

in's statement last

significant feature

and this element

continues to gather

says the group

in full from

the self-

activity, and this

sector is now

parts operations

and satisfactory

results. The parts

have been even

strike early, in

the group's

despite the

severe price

petrol market

and contributions

at levels

year.

to the existing

and the sale

Rolls Royce diesel

the group is now

supply complete

the chairman looks

confidence to the

of this activity.

Bordeaux he adds

supply problems

of the anticipated

is continuing

not required for

company to meet

working

rationals

nearly finished.

1st year branches

have either been

now available.

its programme has

substantially to group

approved utilisation

handler states

states that Replys

in general agree-

trade before pub-

lication adjusted

pers and Lybrand

counts saying that

is provided on

longer household

ended at cost or

for the com-

for the group.

1977, Avondene

subsidiary of Bank

reached 20,03 per

turnover of £727,000 com-

pared with £708,000 per

R24m. by Reed Nampak

Imps pessimism over NSM

Goodall Group incurred an increased loss of £40,000 against £11,000 for the 26 weeks to July 2, 1977. For all 1976 the deficit was £55,000.

The directors state that the withdrawal from sports goods has now been largely completed and although it will have an adverse effect on the final results for 1977, the losses in this sector should not carry through into 1978.

Despite a slow start in December, trading conditions for the company's range of camping products reached their expected level and the small increase in turnover was achieved.

The results are not comparable in view of the deconsolidation of the group's foreign subsidiaries in the year to 31st December 1976. Pre-tax profits were £242,700, against £15,800, and earnings per share before extraordinary items are shown as 68.4 cents (37.58 cents).

The directors say the results are very gratifying bearing in mind the depressed economic conditions which prevailed within South Africa during the year. The acquired printing and packaging companies exceeded the forecast earnings estimates at the time of the group's turnover (excluding foreign subsidiaries and the acquired printing and packaging companies) increased by 10.3 per cent when compared with the 12 months to end 1976. Attributable earnings calculated on the same basis amounted to 58.76 cents per Ordinary share which, when compared with the previous year, represents an increase of 16.9 per cent.

In view of the increased earnings a final dividend of 18 cents per Ordinary share has been declared making a total distribution of 60 cents which, when equated to the comparative annualised Ordinary dividend of 24.75 cents for the previous year, represents an increase of 4.36 cents per share.

Reed International is contemplating the disposal of its entire shareholding in Reed Nampak to SAPPI. Pending the outcome of these negotiations the listing of the company's shares on the Johannesburg Stock Exchange has been suspended.

Turnover Income before tax Net income Prof. dividends Share of assoc.

£1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,000,000 1,000,000 1,000,000 1,000,000 1,000,000

1,00

INTERNATIONAL FINANCIAL AND COMPANY NEWS

Gains abroad support Saint-Gobain

BY DAVID CURRY

STRONG GROWTH overseas by the leading French private company, Saint-Gobain-Pont-a-Mousson, last year compensated for a uniformly dismal performance in France, a performance blamed squarely by the group's chairman, M. Roger Martin, on price controls.

Quoting chapter and verse, M. Martin, whose group has the unhappy distinction of leading the list of nationalised candidates if the Left wins next month's General Election, said that in the cast iron pipe sector alone the company could sell at prices 85 per cent. higher in Germany than in France, 50 per cent. higher in the U.S. and 35 per cent. higher in the U.K.

Its paper-making subsidiary, La Cellulose du Pin, with Frs.50m. (\$16.6m.) or so of losses in 1977 had lost Frs.45m. in sales over six years because of the artificial blocking of French paper prices below the international price level.

"The profitability of our French operations is decisively inferior to that of our overseas operations and this gap is getting worse with time," M. Martin commented, in introducing the provisional 1977 figures. These show group sales up by 10 per cent. allowing for monetary movements and compensating for

successive Governments to this sector some 75 per cent. of which was in France.

In fact, Pont-a-Mousson SA, which accounts for this activity was in deficit in 1977 for the first time since 1946, suffering a 20 per cent. cut in production over

Fr.s.bn.

Group	SALES		CASH-FLOW		INDUSTRIAL INVESTMENT	
	1977	1976	1977	1976	1977	1976
Construction equipment	13.39	11.51	1.41	1.07	1.25	0.870
Piping and engineering	5.36	4.94	0.304	0.341	0.335	0.277
Glass packaging	2.65	2.28	0.240	0.161	0.148	0.094
Paper packaging	2.62	2.557	-0.020	+0.037	0.155	0.238
Refractory products	0.794	0.739	0.047	0.047	0.048	0.030
Contracting and services	3.96	3.75	0.074	0.153	0.128	0.126
Distribution	3.518	3.26	-0.034	+0.071	0.050	0.051

The sales are those of integrated companies only.

structural changes to Frs.31.5bn. France were loss-making. There were two German and one Spanish loss-makers while in Brazil and the U.S. there was 10 per cent. of net profits, while nothing but black ink.

M. Martin had no reassuring news for 1978. He said the year looked very much like a continuation of 1977, and dismissed hopes for the U.S. were 13 four basic activities: flat glass; 10 per cent. and 30 per cent. res-insulation materials; asbestos cement; and cast iron pipes. Only

Making one of his by now the latter caused serious anxieties although he thought that turnover would rise to Frs.35bn.

familiar attacks on the refusal and it was no coincidence that in

PARIS, Feb. 20.

Alfa-Laval estimates maintained profits

By John Walker

STOCKHOLM, Feb. 20.

THE GROUP pre-tax profits of Alfa-Laval, the Swedish dairy, farm equipment and industrial separator concern, are estimated at about Kr.305m. in 1977, against Kr.283m. for the previous year, according to the preliminary report for last year. In previous years calculated depreciation was applied instead of financial depreciation. The change means that the 1977 profit was increased by about Kr.30m.

Invoiced sales for the group increased by 11 per cent. to about Kr.42.5bn. (\$803m.) during 1977 and the backlog of orders at the end of the year exceeded the level of a year earlier.

The net amount of financial income and costs—including exchange differences for the group has improved by approximately Kr.25m., enabling it to pay into its pensions fund after two barren years. But it did not describe the overall result as still unsatisfactory. It was adversely affected by, among other things, the continued delay

AEG-Telefunken improving

BY JONATHAN CARR

on the construction of nuclear power stations and the cost of restructuring, the positive results of which would only show up fully in the medium term. Deceptive. The subsidiary AEG Kanis landed a massive order in 1977 to DM14.5bn., with order in June, 1978, and a fall of 3 per cent. at home. 1977 figures are being compared with those of one year earlier.

This emerges from a letter to shareholders covering developments last year and the future outlook. The picture is one of further consolidation and restructuring in a concern which has fought its way back to profitability after losses in 1974 and 1975.

Apparently as part of this restructuring, AEG-Telefunken reveals that at the turn of 1977-78 it gave up its 20 per cent. stake in Industrie A. Zanussi, the large Italian manufacturer of electrical household appliances. AEG said it made use of its contractual rights to return the stake, which it had held since 1974. It gave no further details.

The company does not yet specify by how much earnings improved against 1976, when AEG-Telefunken recorded net profits of DM397m., enabling it to pay into its pensions fund after two barren years. But it did not describe the overall result as still unsatisfactory. It was adversely affected by, among other things, the continued delay

in the single order of 1978.

Order figures would show a 4 per cent. in 1978.

Incoming orders fell by 1 per cent. against 1976 to DM1.5bn. All orders figure a rise of 7 per cent. based on a rise of 10 per cent. cent.

MAN-VW deal approved

BY LESLIE COLLY

BERLIN, Feb. 20.

WEST GERMANY'S Cartel addition to Daimler-Benz's IVECO (Fiat and Magirus-Deutz) has approved a co-operation agreement reached last year between MAN (Maschinenfabrik Augsburg-Nürnberg) and the Volkswagen to jointly produce a new line of six-tonne to 15-tonne trucks. Their co-operation allows both companies to supplement their range of products with considerable savings in costs. The Cartel Office has specialised and the trucks through MAN's existing distribution network, so that VW does not have to set up its own sales organisation.

Abitibi helped by dollar conversion

TORONTO, Feb. 20.

ABITIBI PAPER Company's the premium on conversion of U.S. dollar into Canadian dollars to \$1.67m. to 1977 net earnings.

The company added that looks for improved sales earnings in 1978.

The company reported earnings of \$37.5m. or \$1.25 a share last year against \$30.7m. in 1976. During the year the company had an extraordinary loss of \$1.5m. principally as the result of terminal losses relating to Reuter.

Eli Lilly super pharmacies

INDIANAPOLIS, Feb. 20.

ELI LILLY says that laws have been filed in six states accusing 11 retail pharmacists and three pharmaceutical distributors with infringement of company's patents on Keflex cephalosporic antibiotic.

These legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

Principal legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

NORTH AMERICAN NEWS

Goldman Sachs backs rates lift

BY JOHN WYLES

THE ATTEMPT by several U.S. brokerage firms to boost their commission revenue has been given the vital support of Goldman Sachs, one of the top two institutional brokers on Wall Street.

Following fast on the heels of another Wall Street major, Morgan Stanley, which recently put up its fees to institutions, Goldman Sachs issued a somewhat delphic statement before the week-end saying that the company felt it was "both necessary and timely" to encourage an overall increase of commission revenues in order to assure the continuation of vital investment services."

The abolition of fixed commissions in May, 1975, has sliced brokerages' fees to boost their revenues and helped the closure of some firms and the mergers of others. The move to stem the tide on discounts was started by some small firms, and then gathered momentum when Donaldson Lufkin and Jenrette set a ceiling on the discounts it would give to its institutional clients this month.

Morgan Stanley followed suit although it did not announce any discount limits beyond which it would not do business. Neither has Goldman Sachs, which stressed in its statement that no one rate or formula is right or applicable for all transactions." The firm emphasised that "reasonable rates" which adequately reflect the scope and quality of services rendered are essential to the preservation of high quality brokerage services."

Since Goldman Sachs has been voted top broker of the year for three years in succession by an independent survey of the institutions, the prospects of Wall Street holding its new charges look "immeasurably better." Since Goldman is believed to have had one of its best years ever last year—due more to mergers and acquisitions than securities trading—there is no suggestion that it is supporting the new pricing trend from a position of weakness." Its new position could well encourage the industry's leader, Merrill Lynch, to follow suit.

These legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

These legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

These legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

These legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

These legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

These legal actions are in a

tion to others launched late last year against Zenith Laboratories, Northvale, N.J., Generix, D. Hollywood, Fla. and the H. Moore Drug Exchange in Britain, Connecticut.

These defendants were charged with patent infringement and unfair competition in markets confusingly similar products by the same colour combination as Keflex.

These legal actions are in a

SELECTED EURODOLLAR BOND PRICES

MID-DAY INDICATIONS

STRAIGHTS	1977	1978	1977	1978	1977	1978
Alcan Australia 3/6c 1989	91	92	CGF 1982 Spec 92	92	92	92
AMEC 3/6c 1987	91	92	CGMF 1984 Spec 92	92	92	92
Australia 3/6c 1987	92	93	Creditanstalt 1984 Spec 92	92	92	92
Bankers Trust 3/6c 1987	92	93	DG 1982 Spec 92	92	92	92
Barclays Bank 3/6c 1982	92	93	GZB 1981 Spec 92	92	92	92
Bowater Spec 1982	92	93	ICB 1981 Spec 92	92	92	92
Canadian N. River 3/6c 1982	92	93	ICL 1982 Spec 92	92	92	92
Cominco National 3/6c 1982	92	93	ICRA 1982 Spec 92	92		

FINANCIAL TIMES REPORT

Tuesday February 21 1978

Thamesdown

Swindon still retains its tradition as a leading railway town. But by expanding and diversifying its industry the town has been well able to cope with the recent recession and the new district of Thamesdown has every reason for confidence in its future.

oving
the
ht
ck

ony Moreton
Fairs Editor

10 years ago, when the
in were filtering
villian jobs after the
on was one of the
way towns in the
day, following local

Multiples

This expanding population has come in the wake of the expanding diversification of industry. To take the place of one of the outlying railway workshops, groups like British Leyland, Vickers, Garrard, Wills, Nationwide Building Society and Hambro Life now play an important role. C and A has just arrived in the shopping centre to join most of the other multiples. The Science Research Council will move its headquarters in before the end of the year and it will be joined by the Natural Environment Research Council; it could have Kwiksides Discount Group and of Tyneside and others.

South Wales. These names alone indicate that the spread of jobs among main headquarters. Institutional Industry is still thriving and service finance has been approached to

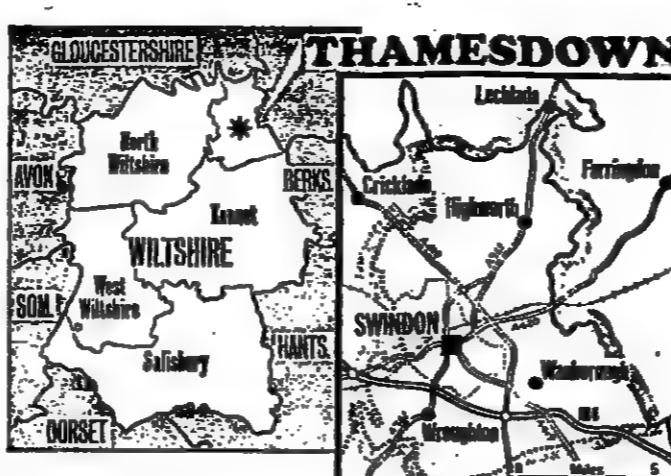
there in the town, but as it has slimmed it has taken on a new life and earlier this month the first locomotive from the workshops for 15 years was rolled out. The railways are still important though the town is now more dependent on them.

Compared with many other towns Swindon has ridden the recession of the past four years rather more easily. Its unemployment figures are not noticeably worse than the national average and the town, partly through boundary changes, has

grown and will continue to leave office employment, grow. The present population is 120,000 in the town, or 180,000 in the whole district of Thamesdown — probably encompasses another 20,000 in the immediate environs. By the late 80s to middle 90s it is expected to grow to at least 220,000.

More immediately, Mr. David Kent, the go-ahead chief executive, believes some major companies are about to announce moves to the town. One of them is expected to be a major international group which could go to a site next to Burmah Oil's headquarters and provide work for as many as 1,500. A second is also an industrial major and its workforce, too, could run to four figures.

On top of this, the council has other ambitious plans to attract in more companies by granting planning permission, against the wishes of the county council, for a 300,000 square feet office block near the station. This building would be up to nine storeys high and be some three times the size of Burman's and it was not until the Secretary for the Environment overrode the objections in January



pay for the cost and since no office permit is required several organisations have expressed interest in the project.

Part of the reason for this interest is the excellent position which Swindon occupies. It is astride the main railway line to the West Country and South Wales and, with the high-speed trains, the journey from Paddington can take as little as 50 minutes. It is also on the fringe of the M4 motorway, so that London Airport can be reached by car in under the hour. It is also easily accessible to the Midlands and the South Coast ports.

What is of some concern, though, is the lack of co-operation between the district council and the county council. When Swindon wanted to provide land for expansion Wiltshire objected and it was not until the Secretary for the Environment overrode the objections in January

that Thamesdown could go ahead.

Swindon believes that attracting industry into the town is pointless unless there are adequate ancillary facilities, the most important of which is housing. It has taken a positive

policy towards building houses

(if necessary buying from

private owners) in order to

ensure that potential entrants

are not penalised by a lack of more

hotels. The four main ones

straddle the social strata, from

council to executive housing.

It is a policy that has paid off, but it has been accom-

plished in the face of opposition from the county. "If we had a single-tier authority, we could do a lot better. Intervention of other bodies is frustrating, expensive and annoying."

Planning permission has also been given on a site at the motorway interchange last year there were 80 inquiries and another 147 contacts made by the local authority.

Not all the prospects are so encouraging and there are worries over some of the plants.

From the Government, on the other hand, the council has had

1977 the target was 2,800 of lay-offs at Garrards, the turn-

table subsidiary of Plessey.

There is inevitably concern over

the position of the British

Leyland plant. It has a good

labour-relations record but it is

fear that it might be sucked into

other disputes within that

unhappy group.

Then there is the Wills plant,

which produces many of the

company's smaller cigarettes.

EEC regulations, which came

into force at the start of

this year discriminate against

smaller cigarettes, and future

production at the plant will

depend to a large extent on how

the tobacco giant can adapt to

the need to produce longer

cigarettes.

Garrard's problems could hit

the job-creation targets.

If any

of the other main groups in the

town were similarly affected a

nasty hole could be blown in

all the planners' projections.

Such a pessimistic note might

seem wrong to end on, since

Thamesdown is so full of

optimism. The coming recovery

in the national economy is

operating on the town's side and

if it can weather the next 12

months without too much dis-

ruption then the outlook is

indeed promising.

SWINDON HAS INCENTIVES NO GOVERNMENT CAN OFFER.

Government aid is the last thing you need in like Swindon. ey, Burmah Oil, Hambro Life, British Leyland, Reliance Ltd. (USA) and W. H. Smith are the 300 firms who have already established lives here. Making Swindon the most successful town in the U.K. never has it looked more tempting to expandingies than it does today.

Office and factory space is immediately available. There's plenty of land for development sites, with full I.D.C. support.

Communications are excellent. We're at the hub of the motorway network, with London and South Wales along the M4 (a direct link to the new Ford plant at Bridgend) and the Midlands, North and South West via the M5.

By Inter City High Speed train, the capital is an hour or less away. Even Heathrow Airport is quicker from Swindon than from central London. And the sea port of Southampton is a mere two hours away.

To the employees you bring with you, we offer guaranteed housing and a more relaxed way of life. For additional recruitment, a large work force is available.

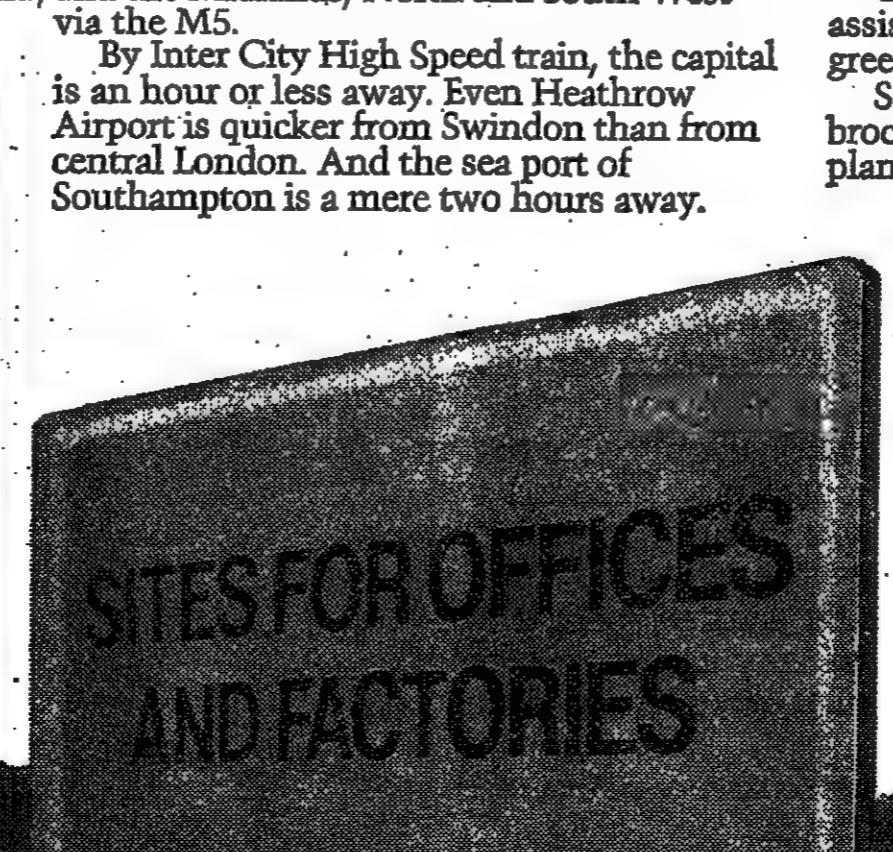
With advantages like these, the only help you'll need will come from the Council's experienced development team.

They'll give you, and your employees, every assistance to make your move a smooth one - from green fields to full production.

So if your company is going places, send for our brochure and get the facts about Swindon - the town planned for growth.

Contact: The Industrial Adviser's Office,
Thamesdown Borough Council,
SWINDON SN1 2JH
Tel: 0793 26161
Telex: 44833

Borough
of
Thamesdown



THAMESDOWN II

ASPEN HOUSE
SWINDON

A rare opportunity to lease a substantial office building west of London.

66,000 sq. ft.

To Let

- Air-conditioning • High Speed Lifts
- 120 Parking Spaces • Computer Facility • Central Location

**JONES LANG
WOOTTON**

Chartered Surveyors
103 Mount Street, London W1Y 6AS.
Telephone: 01-493 6040. Telex: 23858.

JP Sturge

Chartered Surveyors
37 Regent Circus, Swindon SN1 1QD.
Tel: (0793) 33155.

SINCE 1974, Swindon has been pursuing an integrated house building policy which has doubled the rate of new construction and provided the town with a blend of housing types and tenures designed to meet the needs of an expanding community.

The town's urban area population has grown from about 67,000 in 1952, when it was earmarked for overspill development in the Town Development Act, to just over 120,000 today, allaying some earlier fears that it would decline with the shrinking of its major and traditional source of employment, the railway industry.

Future projections envisage the town and its outskirts having a population of between 155,000 and 160,000 by 1986, with the figure rising to around 220,000 before the turn of the century. With these figures in mind, the town decided four years ago to set itself new householding targets to meet the expected demand from a growing population, and to date its record of progress has been good.

The council decided on an annual new building rate of 1,500 units, but also devised a programme which would provide the widest possible housing choice throughout the borough.

At the time the targets and the new strategy were set, the council accepted that there would be some delay in meeting its objectives, but this is now happening and the new building rate in its last financial year reached 1,600 units against only 700 to 800 pre-1974.

For the next couple of years

at least, the council is confident that the planned level of building can be maintained. A recent decision by the Secretary of State to release over 500 acres of land for housing development has provided a major boost for the council's programme.

In the words of Mr. Gerald Blythe, director, development and housing for Thamesdown: "Housing is our number one priority. An immediate supply of housing is something which not many local authorities can offer but now we have doubled our rate of building we are confident we can meet any demands made of us."

Its ability to provide its own

mortgage finance for applicants has, as in other local authorities, been severely restricted by central Government expenditure cuts. At the moment, only about £400,000 a year is available for home loans against a figure which once exceeded £4m. The Council reports, however, that building society co-operation is going quite well.

Essential

Of the remaining housing being built, about 10 per cent will be the result of housing association work and the rest will be provided by normal private sector development.

"It is a fact of life here

which everyone seems sensible enough to appreciate. If the town is to thrive and expand, then it must put nothing in the way of people who wish to come and contribute to its success. It is in the ultimate interests of everyone that they should be helped first."

Behind the house building programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Within each "village," the to 1980, since when it has been building homes and commercial planners are endeavouring to provide the widest possible property in the area. The cross-section of housing types company has just reported its sales on its luxury Brize Manor development have topped the £2m. mark. Remaining properties are priced from £25,000 to £38,000.

Elsewhere in Swindon, expansion to the east of the town, just being finished off, Properly accommodating another 12,000 people is included in this plan centred on the Dorian area which has two urban villages established. More developments in both the west and northwards are planned.

Away from new housing construction, the council has small-scale slum clearance programme under way and encouraging private sector

grant work wherever possible. It has declared three general improvement grant work whenever possible. It has declared three general improvement areas, one of which includes a railway village which

was built in the mid-1800s and is now being renovated to provide over 300 homes. The scheme has won a number of design awards and the council pleased to hold it up as an example of the efforts to which it is prepared to go to preserve the town's identity.

At the other end of the scale the council is just about market 72 luxury flats for rent. They form part of the £20m. Brunel Centre development and are located in the scheme's tower block. Rent for the one- and two-bed flats will reflect the "luxury" standard which has been attached to them.

Michael Casse

Employers. To meet your local needs we've sharpened up our local service

Finding staff locally is, quite obviously, a local problem.

And because we're determined to give you a really effective local service we've introduced Jobcentres. They are the most visible result of a new attitude that is changing the entire employment service, its management, its staff and its organization.

Today there are nearly 400 Jobcentres up and down the country. And the remaining 600 Employment Offices now offer a much improved service.

The local managers and their team can offer you an impressive service across a range of commercial and industrial jobs - backed up by a grasp of specific local employment needs and a countrywide network.

Jobcentres are prominently situated, offer a self-selection display where your vacancy can be presented within minutes of notification, and they attract a wide range of jobseekers.

We can also give a more personal service that can be tailored to meet your individual needs.

You have a vacancy? Give it to your local Jobcentre or Employment Office. Our local manager is ready to help you in every way possible. It's well worth your while to find out about the full range of services we can offer.

JOBCENTRE

MSC

Manpower
Services Commission
Employment
Service Agency

Part of Britain's Changing Employment Service

A blend of housing

become established, the council will also undertake to find alternative accommodation for any additional key workers that are subsequently required.

In the words of Mr. Gerald Blythe, director, development and housing for Thamesdown:

"Housing is our number one priority. An immediate supply of housing is something which not many local authorities can offer but now we have doubled our rate of building we are confident we can meet any demands made of us."

Such is the priority given to newcomers, that local people on the town's waiting list lose their places in the queue if an incoming company's employees require homes. With a local waiting list of just over 2,000, representing anything up to an eight-month waiting period, such a policy could be potentially very explosive, although Mr. Blythe says this is not the case.

"It is a fact of life here which everyone seems sensible enough to appreciate. If the town is to thrive and expand, then it must put nothing in the way of people who wish to come and contribute to its success. It is in the ultimate interests of everyone that they should be helped first."

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

Behind the house building

programme lies the local authority's determination to ensure that people and local communities can retain their identity. A policy of developing comprehensive "urban villages" has been put into practice over the past ten years, with each area housing between 5,000 and 8,000 people and offering a relatively self-contained community in its own right.

STOCK EXCHANGE REPORT

Markets steady with investment interest at low ebb
Gold shares and Gilts up again but equities little changed

Account Dealing Dates

Optlon

First Declaralions

Last Account

Dealing Day

Jan. 30 Feb. 29 Feb. 10 Feb. 21

Feb. 13 Feb. 23 Feb. 24 Mar. 7

Feb. 27 Mar. 9 Mar. 10 Mar. 21

"New time" dealings may take place from 9.30 a.m. two business days earlier.

With the appalling, if fresh, January trade deficit still fresh in mind, the continuing deterioration in manufacturing order books shown in the latest survey from the Confederation of British Industry and that body's stated concern about the position led to a cautious start to the second and final leg of the Stock Exchange Account yesterday.

Business volume shrank again, official markings falling to 4,204 compared with 4,389 on Friday and 5,220 on the week ago level.

After the recent volatility, British Funds became much steadier and managed to harden under the lead of the short end of the market, which closed with gains to 1, and the Government Securities index improved 0.07 to 74.73.

Leading equities on the other hand, failed to extend the rally yesterday, and lost Thursday and Friday. No selling pressure developed and prices were usually a shade above the day's lowest by the close but the limited range of price movements were seen in the FT 30-share index; a fall of 1.8 at 10 a.m. was reduced to a net point an hour later and virtually held its ground until the close which was 1.3 down at 438.0.

Scattered firm figures emerged from Westland, Plessey, commercial and trading associations, while news of two fresh bids in the late trade enlivened interest in the recent speculative favourites. James Dawson were particularly prominent at 125p, up 3.8 on the agreed offer from J. H. Fenner while yet another merger move in the Investment Trust world left Western Canada IT up 15 at 165.45p. Overall falls did rise in FT quoted Industrials by 5-6p but losses in the FT Actuaries share indices were usually limited with the All-share 0.3 per cent. off at 199.77. Not helped by the Price Commission's demand for cuts in tea prices, the Food Manufacturing subsection came back 1 per cent to 180.38.

A spurt of 53 an ounce to a three-year peak of 1832 in the bullion price enabled the Gold Mines share index to put on 3.1 more to 180.2 for a rise of nearly 12 per cent. in the last seven trading days.

Gilt quietly firm

The prospect of a week without any scheduled major trading influences caused a reduction of the business in Gilt-edged but at the same time lifted the market 3 in 35p.

Chemicals passed a quiet

volatility. Reported threats by militant power workers for industrial action were not taken too

seriously and both short- and long-dated maturities began marginally at 100p, lost 3 of last Friday's gains.

Although interest was low, the former were un-

disturbed by a late morning re-

actionary trend and thereafter re-

ceded forward to close at 2 to 70p.

A firm market last week

maximum of a half-point higher,

continuing the movement in

Scottish TV A were wanted again at 67p. up 2.

Thursday, Albright & Wilson,

favourite, encountered selling and

gave up 4 to 118p while falls of 3

were recorded in Charles Clifford,

Sip. and Benjamin Priest, 74p.

Peter Brothers closed a penny

lower at 108p in front of today's

interim figures. In contrast,

Simon Engineering hardened a

few pence to 206p helped by news

of the Yugoslav contract, while

occasional support left Howden

Group 18 better at 59p and

Avery 2 firmer at 134p.

Brooke Bond enlivened by an

otherwise neglected Food sector,

losing 2 to 43p on the Price Com-

mission's report that immediate

cuts of about 5p a quarter should

be made in the price of tea.

J. Lyons were also affected at 97p,

the preliminary results are due

early next month.

Movements of note were few in

Motors and Distributors, British

Leyland eased to 23p following

publicity given to the cost of the

closure of the company's Steel

plant in Liverpool and Glesfield

21p to 22p a penny to 22p

while the chairman's annual state-

ment, H. Perry was lowered 4

to 160p, while Lox Service, 63p,

and Turner Manufacturing, 108p,

shed 2 apiece.

A week-end Press suggestion of

a possible bid from Trafigura

House Investments drew buyers'

attention to Associated Book

Publishers, which added 5 at 183p.

Interest in the Property sector

was at a low ebb. Among the

leaders, Land Securities drifted

back to 23p before settling at

21.5p for a loss of 3 on balance,

while MEPC finished similarly

lower at 115p. Elsewhere, falls

of between 3 and 5 were seen in

Churchill, 24.7p, and Michael

Securities, 165p.

Engineering Investment

met with sporadic support ahead

of Thursday's interim results and

rose 4 to 99p. United Steel

regained 3 to 235p and Imery

hardened a few pence to 302p. In

contract, Samuel gave up 2 to 52p

and Great Portland were a like

amount lower at 312p.

The Electrical leaders passed a

little time, although Russ Charrington

hardened a penny to 142p following

the Pricer's Commission's per-

mission for a 2p a pint increase

in the bid price.

Among Irregular Buildings,

Orme Developments reacted

sharply to 50p on disappointment

that the interim profit setback

before rallying to 50p, while

Almet and Southern

were marked up 2 to 187p in response

to Press comment. H. and R.

178p. Taylor Plastics stood out

with a rise of 4 to 178p in response

to favourable week-end Press

mention. General Engineering

Radcliffe advanced to 23p for a

similar reason, but closed only a

penny cheaper on balance at 22p.

ICL remained on offer at 238p,

down 4 after 23p, while losses

in the remaining subsections are due on Westland, a recent speculative

figure.

Apton, 100p, and Plessey, 215p,

both up 3.8 on the agreed offer

from J. H. Fenner.

The Electrical leaders passed a

little time, although Russ Charrington

hardened a penny to 142p following

the Pricer's Commission's per-

mission for a 2p a pint increase

in the bid price.

Among Irregular Buildings,

Orme Developments reacted

sharply to 50p on disappointment

that the interim profit setback

before rallying to 50p, while

Almet and Southern

were marked up 2 to 187p in response

to Press comment. H. and R.

178p. Taylor Plastics stood out

with a rise of 4 to 178p in response

to favourable week-end Press

mention. General Engineering

Radcliffe advanced to 23p for a

similar reason, but closed only a

penny cheaper on balance at 22p.

ICL remained on offer at 238p,

down 4 after 23p, while losses

in the remaining subsections are due on Westland, a recent speculative

figure.

Apton, 100p, and Plessey, 215p,

both up 3.8 on the agreed offer

from J. H. Fenner.

The Electrical leaders passed a

little time, although Russ Charrington

hardened a penny to 142p following

the Pricer's Commission's per-

mission for a 2p a pint increase

in the bid price.

Among Irregular Buildings,

Orme Developments reacted

sharply to 50p on disappointment

that the interim profit setback

before rallying to 50p, while

Almet and Southern

were marked up 2 to 187p in response

to Press comment. H. and R.

178p. Taylor Plastics stood out

with a rise of 4 to 178p in response

to favourable week-end Press

mention. General Engineering

Radcliffe advanced to 23p for a

similar reason, but closed only a

penny cheaper on balance at 22p.

ICL remained on offer at 238p,

down 4 after 23p, while losses

in the remaining subsections are due on Westland, a recent speculative

figure.

Apton, 100p, and Plessey, 215p,

both up 3.8 on the agreed offer

from J. H. Fenner.

The Electrical leaders passed a

little time, although Russ Charrington

hardened a penny to 142p following

the Pricer's Commission's per-

mission for a 2p a pint increase

in the bid price.

Among Irregular Buildings,

Orme Developments reacted

sharply to 50p on disappointment

that the interim profit setback

before rallying to 50p, while

Almet and Southern

were marked up 2 to 187p in response

to Press comment. H. and R.

178p. Taylor Plastics stood out

with a rise of 4 to 178p in response

to favourable week-end Press

mention. General Engineering

TRIALS—Continued

INSURANCE—Continued

PROPERTY—Continued

INV. TRUSTS—Continued

FINANCE, LAND—Continued



MOTORS, AIRCRAFT TRADES

Motors and Cycles

Commercial Vehicles

Components

SHIPBUILDERS, REPAIRERS

SHIPPING

SHOES AND LEATHER

SOUTH AFRICANS

NEWSPAPERS, PUBLISHERS

PAPER, PRINTING, ADVERTISING

PROPERTY

TOBACCO

TRUSTS, FINANCE, LAND

Investment Trusts

INSURANCE

Investment Trusts

Finance, Land

Land

Finance

Diamond and Platinum

MINES—Continued

CENTRAL AFRICAN

AUSTRALIAN

TINS

COPPER

MISCELLANEOUS

NOTES

TEAS

OVERSEAS TRADERS

RUBBERS AND SISALS

COPPER

MISCELLANEOUS

NOTES

TEAS

INDIA AND BANGLADESH

SRI LANKA

AFRICA

MINES

CENTRAL RAND

EASTERN RAND

FAR WEST RAND

REGIONAL MARKETS

TRINITY

OPTIONS

3-month Call Rates

DIAMOND AND PLATINUM

OPTIONS

3-month Call Rates

INSURANCE



Anger left and right at defence plans

By Michael Donne,
Defence Correspondent

THE GOVERNMENT'S Defence White Paper was attacked from both sides of the Commons yesterday. From the Left wing of the Labour Party came calls for spending to be cut further, while the Conservatives claimed the White Paper contained distortions in its comparative assessments of NATO and Warsaw pact forces.

In particular, the Conservatives were angry at the inclusion of French forces in Western Germany and the eastern Atlantic in the assessment of NATO strengths at a time when France is not militarily integrated with the alliance, although a member of it.

The White Paper, otherwise, contains no surprises. It points out that, as a result of previous reviews of defence spending, about £261m. is being cut out of the 1978-79 budget, mainly on the equipment side.

The budget for the coming year will be £5.919m. for 4.75 per cent. of estimated gross domestic product. But, to meet NATO's insistence on the build-up of conventional forces to face a comparable Soviet build-up, spending by the U.K. will be raised by 3 per cent. in 1979-80, and by a further 3 per cent., subject to review, in 1980-81.

Beyond that, the White Paper is non-committal about future spending. "The 1981-82 figure is for the time being, simply a repeat of 1980-81," it says. "No decisions have been taken, since it will be necessary before reaching conclusions to take account of developments in arms control and defence as well as in the economy."

The priority

Sir Ian Gilmour, shadow Defence Minister, said the White Paper was an exercise in distortion, because it played down the true gravity of the threat that NATO faced, and concealed the damage to the operational capability of Britain's armed forces which had resulted from the spending cuts of recent years.

It presented the planned level of spending for 1978 to 1980 as an increase, whereas in fact it was a cut in previously planned expenditure. "In an election year, the Labour government gives truth an even lower priority than defence," he said.

The White Paper's comparison shows that in terms of soldiers, the NATO alliance, even including the French, is outnumbered in central Europe by 1.2 to 1; in main battle tanks by 2.7 to 1; in artillery by 2.5 to 1; and in fixed-wing tactical aircraft by 2.4 to 1. The paper makes no mention of future levels of forces, pay, which has been the subject of considerable concern in recent months. Mr. Mulley, Defence Secretary, explained this yesterday by saying the Government was waiting for the report from the armed forces pay review body, which is due by April 1.

"The only point I would make now is that whatever pay increase is decided on then will be added to the defence budget."

Dr. Josef Luns, Secretary-General of NATO, urged the Western allies last night to step up their defence spending, to fend off what he called a growing threat from the Soviet Union.

Dr. Luns in London at a meeting of the Europe Atlantic Group, said: "We must spend not what we want, but what we must." The Soviet Union and the Warsaw Pact forces had not only increased significantly, but had also made dramatic technological advances which could jeopardise the Western position. "Our highest priority must be to maintain sufficient military power to keep Soviet ambitions in check," he added.

Details, Page 2
Editorial comment, Page 16

Tension as Egypt and Cyprus meet after airport battle

By MICHAEL TINGAY

DR. BUTROS GHALI, Egypt's Minister of State for Foreign Affairs, held four hours of talks with President Spiros Kyprianou of Cyprus today to discuss the embittered relations between Cyprus and Egypt following last night's battle at Larnaca Airport in which 15 Egyptian commandos were killed and 16 injured.

Later reports said the Egyptian Cabinet is to withdraw Egypt's diplomatic mission in Cyprus and ask Egyptian diplomats to leave Cairo. State television broadcasts said Egypt would review relations with the Cypriot Government. But there was no mention of a decision to break off diplomatic relations.

Mr. Ghali arrived at the British air force base at Akrotiri because Larnaca Airport remained closed while authorities cleared battle debris from the runway. He later flew back

to Cairo with the bodies of the dead commandos as well as those injured and captured.

Mr. Christodoulos Veniamin, the Cypriot Minister of Defence and Interior, adopted a conciliatory line towards what Nicosia nevertheless considers a major violation of Cyprus's sovereignty when he announced earlier that the commandos and their arms and equipment would be returned "as if nothing has happened."

The Egyptian envoy avoided reporters' questions as he left the Presidential office. He merely said: "There will be further consultations on this tragic event."

Mr. Veniamin, who ordered the National Guard to intervene to stop the commando attack, also announced that President Kyprianou had asked Egypt to recall its military attache. He emphasised repeatedly that the Palestinian and an Algerian, left

Government had not authorised the island quietly, it is thought the Commando raid and the to Algiers.

Mr. Veniamin said: "To the best of my recollection, no such incident happened in Cyprus."

One of the delicate aspects of the affair which, in the opinion of observers here, may have encouraged the Egyptians to mount the raid was Nicosia's reputation for being "soft" on terrorists.

The two Palestinians who started the week-end drama were taken under strong police escort before the Nicosia district court today and formally charged with the murder of Mr. Yusuf Sibai, the Egyptian newspaper editor and former Government Minister who was shot and killed in Nicosia's Hilton Hotel on Saturday.

The raid that went wrong.

Page 2
Editorial comment, Page 16

Scots Nationalists pledge Assembly Bill support

By RAY PERMAN AND RICHARD EVANS

THE DEVOLUTION Bill's chances of surviving its Third Reading in the Commons tomorrow night were improved considerably yesterday when the Scottish National Party pledged its unconditional support.

The party's national executive and MPs, meeting in a Glasgow hotel, decided unanimously to continue backing the Bill, in spite of last week's Government defeat, which put conditions on the proposed referendum.

Mr. Donald Stewart, leader of the Parliamentary group, said afterwards that they would demand that the Prime Minister make the vote an issue of confidence to pull rebel back-benchers into line.

But he admitted that if Mr. Callaghan refused this, the 11 SNP MPs would still support the Bill.

There was widespread anger and resentment in Scotland at Westminster's fiddling, he added. It enabled people to show their contempt the referendum and the Glasgow Garscadden by-election should be held as soon as possible.

Raw deal?

"All of our members have been in their constituencies at the week-end, and the surprising thing is that people who are not SNP supporters have been saying that Scotland has had a raw deal."

Soundings taken by the party and the latest opinion poll showed that Scots had not lost their enthusiasm for devolution. Mr. Stewart added, "Some members of the party

said privately after the meeting that they would have liked their MPs to be mandated to vote against the Bill, but feared the reaction that would result in Scotland."

The best outcome for the Nationalists tomorrow night, they said, would be if the Bill was killed by a backlash of English Labour MPs. The SNP could then capitalise on this and on the Government's failure to reduce unemployment in Scotland at the next General Election.

Government Whips and Labour anti-devolutionists were both agreed yesterday that the Bill will comfortably survive its Third Reading hurdle before beginning its long haul through the Lords next month.

The decision of the SNP MPs to vote for a Third Reading, despite earlier threats to ditch the Bill and force an early General Election, means that the majority should be much more substantial than expected last week. Some whips were estimating a majority of over 40.

Most of the Labour rebels who contributed to the Government's failure last week to delete from the 60 clauses out of 80 which were not discussed in the Commons because of the guillotine.

The Tory role will be to expose the "limitations" of the legislation and to give MPs the opportunity to take a second look at aspects of the Bill when it returns to the Commons.

But any attempt to kill it off or to hold it up unreasonably would trigger the constitutional conflict between both houses. There are already well advanced moves inside the Labour Party to include in the next manifesto a provision to abolish the Lords.

Stockholders point to these delays as an example of the disadvantages inherent in tying themselves to a monopoly supplier of strip-mill products.

A speech last week by Sir Charles Villiers, the BSC chairman, has allayed some of their fears. Sir Charles said that if industrial action stopped

supplies, the Corporation would substitute imported steel.

In the past few weeks, there has been an upsurge in demand for strip mill products, like hot-rolled and cold-rolled reduced steel, possibly because of a price rise expected in early April. BSC, which did not expect the upsurge, has had a number of problems in the delivery of these types of steel.

Stockholders point to these delays as an example of the disadvantages inherent in tying themselves to a monopoly supplier of strip-mill products.

A speech last week by Sir Charles Villiers, the BSC chairman, has allayed some of their fears. Sir Charles said that if industrial action stopped

supplies, the Corporation would substitute imported steel.

At the same time, many stockholders concede that while they do not like the Davignon Plan, they see no practical alternative to it.

The parties to the agreements registered were: Tarmac Roadstone Holdings, Clugton Slag, J. G. Eccles, Steelpath, Thos. W. Ward (Roadstone), Tilling Construction Services, Wimpey Asphalt, Hovis, Hovis, Hovis, and Hargreaves Quarries.

Under restrictive practices legislation, it is unlawful for competitors to get together to fix prices without notifying the Office of the agreements.

Aggrieved customers—who are likely to be local authorities and the Department of Environment in the case of the blacktop companies—can sue for damages.

There could also be criminal proceedings if the parties to the agreements had signed an under-

Steel delays increase doubts over EEC protection plan

By JOHN LLOYD

DELAYS by the British Steel Corporation in supplying some types of steel have aggravated doubts among stockholders over the European Commission's plan to protect the European steel market.

The EEC scheme—the so-called Davignon Plan—requires stockholders to sign an agreement that they will not sell steel for less than the price of the most competitive domestic producer.

The agreement is legally binding, and there are stiff financial penalties for ignoring it.

Stockholders are also being asked to sign a voluntary com-

mitment to buy 95 per cent. of their steel from domestic suppliers. It is this commitment which is causing most of the worry.

In the past few weeks, there has been an upsurge in demand for strip mill products, like hot-rolled and cold-rolled reduced steel, possibly because of a price rise expected in early April. BSC, which did not expect the upsurge, has had a number of problems in the delivery of these types of steel.

Stockholders point to these delays as an example of the disadvantages inherent in tying themselves to a monopoly supplier of strip-mill products.

A speech last week by Sir Charles Villiers, the BSC chairman, has allayed some of their fears. Sir Charles said that if industrial action stopped

supplies, the Corporation would substitute imported steel.

At the same time, many stockholders concede that while they do not like the Davignon Plan, they see no practical alternative to it.

The parties to the agreements registered were: Tarmac Roadstone Holdings, Clugton Slag, J. G. Eccles, Steelpath, Thos. W. Ward (Roadstone), Tilling Construction Services, Wimpey Asphalt, Hovis, Hovis, Hovis, and Hargreaves Quarries.

Under restrictive practices legislation, it is unlawful for competitors to get together to fix prices without notifying the Office of the agreements.

Aggrieved customers—who are likely to be local authorities and the Department of Environment in the case of the blacktop companies—can sue for damages.

There could also be criminal proceedings if the parties to the agreements had signed an under-

Nicosia, Feb. 20.

Mr. Veniamin said: "To the best of my recollection, no such incident happened in Cyprus."

One of the delicate aspects of the affair which, in the opinion of observers here, may have encouraged the Egyptians to mount the raid was Nicosia's reputation for being "soft" on terrorists.

The two Palestinians who started the week-end drama were taken under strong police escort before the Nicosia district court today and formally charged with the murder of Mr. Yusuf Sibai, the Egyptian newspaper editor and former Government Minister who was shot and killed in Nicosia's Hilton Hotel on Saturday.

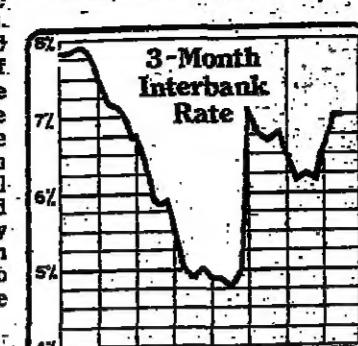
The raid that went wrong.

Page 2
Editorial comment, Page 16

THE LEX COLUMN

Replacement cost of a cuppa

Index fell 1.3 to 458.0



Notwithstanding the rise in the U.S. discount and spurious U.S. intervention, the U.S. currency continues to look "weaker". Admittedly, the OPEC recently revised down its estimates for the 1978 U.S. current account deficit, from \$10.5bn. to \$9.5bn., as a result of the price freeze, but the U.S. private capital outflow is increasing, causing concern.

Last year foreign assets of the U.S. increased by 3.6% to \$131.6bn. but a large part of this (say, \$30bn.) reflects increased foreign central holdings of U.S. Government securities as a result of sales operations for the dollar.

Contractual outlays on road spending have been severe over the past two years; for the financial year beginning April 1977 some 23 per cent. was lopped off motorway spending.

So Marchwiel's latest gains owe much to the settlement of old contracts. Some two-fifths of the improvement in the meantime has come from a good performance in U.K. extraction and mining activities. Overseas results have been disappointing, however. Problems have arisen over payments for a pipeline contract in the Sudan. This and high operating costs in the Middle East have reduced overseas profits from \$2.5bn. to \$1.3bn.

Nonetheless, Marchwiel's cash balances have risen from \$21.8m. to \$35.5m., which represents nearly nine-tenths of the group's market capitalisation. At 240p the shares yield 2.2 per cent. covered a massive 14 times. But until the Sudanese dispute is sorted out, and the group succeeds in broadening the base of its U.K. order book, the shares are likely to remain around present levels.

Trafalgar House

Trafalgar House is a little away in its class and regular in its share price, covering its recent profits. The Price Commission blunts its case, however, by analysing the industry only in terms of historical cost profits—though it gropes towards a current cost basis when it points out that the blenders moved from a cash deficit in the first half of 1977 to a surplus in the third quarter.

Unhappy birthday

New York was on holiday yesterday celebrating George Washington's birthday. In Europe it was business as usual and the dollar took another buffeting on the foreign exchange markets. Less than a year ago the Swiss franc/dollar rate was Sw.Fr. 2.58; last night the dollar was being quoted at a new low of Sw.Fr. 1.82 and the Deutsche Mark was at 2.09m. at end-January 1977.

To some extent the turnover fall of nearly a fifth to \$5.5m. was to be expected and reflects the group's continued dependence on U.K. motorway con-

Fair trading action on

50 more price rings

BY ELINOR GOODMAN, CONSUMER AFFAIRS CORRESPONDENT

ANOTHER 50 unregistered price rings unlawfully operated in the road surfacing industry were placed on the Register of Restrictive Practices yesterday by the Office of Fair Trading.

The move follows the registration last week of 33 similar agreements operated by some of the same suppliers of blacktop.

It is believed the number of pacts could eventually be 1,000, and new agreements are likely to appear on the register over the next few months.

Under restrictive practices legislation, it is unlawful for competitors to get together to fix prices without notifying the Office of the agreements.

Aggrieved customers—who are likely to be local authorities and the Department of Environment in the case of the blacktop companies—can sue for damages.

There could also be criminal proceedings if the parties to the agreements had signed an under-

reference was made under the old system of price controls last March.

Yesterday, there were signs that supermarkets, if necessary, would resort to the tactics they used to persuade coffee processors to cut prices and refuse to buy new supplies until manufacturers cut prices. The only problem with this tactic is that retailers do not carry more than a few weeks' stock of tea.

The commission found that all sections of the tea trade increased profits as world tea prices went up. It estimated that aggregate profits of blenders were more than doubled between 1976 and 1977.

The U.S. currency touched new lows against the West German D-Mark and the Swiss franc, and the central banks of both countries intervened to limit the appreciation of their currencies.